NEW EQUIPMENT DIGEST

A Penton Publication

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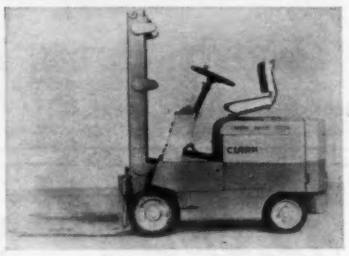
CHECK AND PASS ALONG

✓	NAME	See No.

Use Inquiry Slips—Pages 8 and 104

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

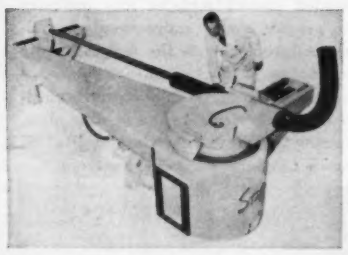
4000-LB FORK TRUCK
climbs 10 per cent grade loaded



Working through a hydraulic circuit, the carbon pile drive control of the Clarklift EC-40 battery power fork truck permits steady, stepless acceleration for inching of loads into place delicately. High torque for fast acceleration is provided by dual field series winding in the drive motor. All components of the truck are easily accessible for maintenance. At capacity load of 4000 lb, truck climbs a 10 per cent grade and travels up to 6.2 mph forward or reverse. Outside turning radius is 70 in. Standard nested roller uprights are used, with triple-stage uprights optional. Over-all length with 40-in. forks is 117⅜ in. Width is 38 in. • **Clark Equipment Co.**, Industrial Truck Div., 1952 Arze St., Battle Creek, Mich.

▲ For more details circle **NED-1 E** on enclosed inquiry slip ▲

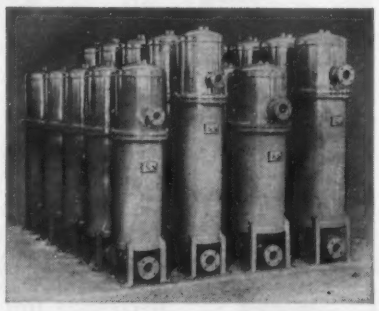
HYDRAULIC DRAW BENDERS
bend thin-wall tube to close radii



Operating with internal mandrels, Pedrick-Staffa hydraulic draw-type bending machines will bend thin-wall conduit and tube to a radius equal to the tube diameter. Close radius types CR3 and CR6 have steel tube capacities of 2-in. OD by ⅜ in. and 3-in. OD by ½ in., respectively. Machines with center forming clamping, designated CF3, CF6, and CF8, will bend 3, 6, and 8 NB steam tubing, respectively. • **Pedrick Tool & Machine Co.**, 3640 N. Lawrence St., Philadelphia 40, Pa.

▲ For more details circle **NED-2 E** on enclosed inquiry slip ▲

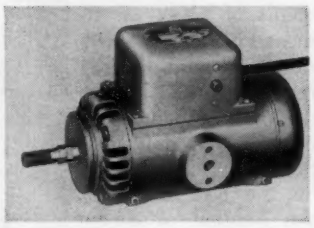
PACKAGED FILTER
for water, brine, other fluids



Pilot plant or development installations are possible applications for the small size packaged LFH filter. Suited for process and industrial water, brine solutions, demineralized water, and various process fluids, it is offered with Poro-Stone, Poro-Carbon, Micro-Maze sintered metal, or Poro-Edge filter elements. Diatomaceous earth can be used to filter out small particles, including many bacteria and algae. Cleaning is by backwashing. On-stream flow rates are 1 to 2 gpm per square foot of filter area, although certain fluids have flow rates of 4 gpm. Filter sizes are 14, 18, 30, and 40 sq ft. Total capacity is increased by installing filters in parallel. Shells may be specified in carbon steel or alloy. • **R. P. Adams Co.**, 327 E. Park Dr., Buffalo 17, N. Y.

▲ For more details circle **NED-3 E** on enclosed inquiry slip ▲

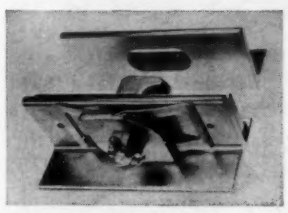
TOOL MOTOR
¾, 1, and 1½-hp ratings



Applicable to woodworking, metal working, and masonry power tools, the Lo Shaft motor offers 360-degree positioning and small diameter. Its 1¾-in. shaft centerline to base dimension permits mounting in close proximity to workpieces. Enclosed starting mechanism provides 200 per cent capacitor start torque. Motor is offered in ¾, 1, 1½-hp ratings and has overload, dust, and dirt protection. • **Franklin Electric Co.**, 346 E. Spring St., Bluffton, Ind.

▲ For more details circle **NED-4 E** on enclosed inquiry slip ▲

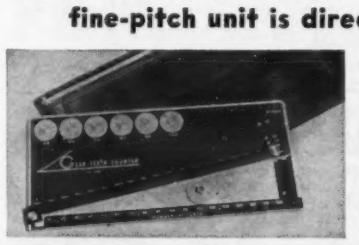
CAM & BOLT COMBINATION
fast opening and closing type



Constant leakproof seal of any predetermined pressure is maintained by the Cam-Bolt after a single adjustment is made at time of installation. Fastener is rapidly opened and closed by a quarter-turn. Its shear and tensile load ratings are reportedly equal to a standard bolt. In the event of permanent gasket set, field adjustment is possible. Diameters of ½ and ⅜ in. are available. • **Simmons Fastener Corp.**, N. Broadway, Albany 1, N. Y.

▲ For more details circle **NED-5 E** on enclosed inquiry slip ▲

GEAR TEETH COUNTER
fine-pitch unit is direct reading



A gear is checked with this direct-reading gear teeth counter by engaging it with 48, 64, 72, 80, 96, or 120-pitch test gears on the panel until proper meshing is indicated. An adjustable sine bar is then set and a simple procedure is employed to count the teeth on a scale. The exact answer is obtained in a few seconds. Counter of etched, black-finished aluminum is furnished in a 5 x 11-in. zipper carrying case. • **PIC Design Corp.**, 477 Atlantic Ave., East Rockaway, L. I., N. Y.

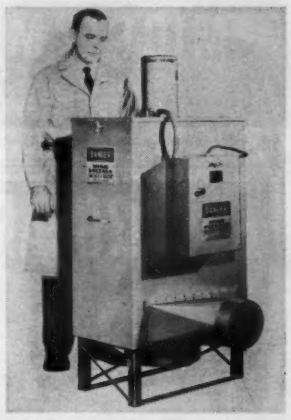
▲ For more details circle **NED-6 E** on enclosed inquiry slip ▲

RUSTED METAL PRIMER
now contains drying agent

Drying time of Ospho metal treatment is reduced to about one-half the 12 hours formerly required. It is applied on rusted metal without surface preparation and chemically changes rust into iron phosphate. Resulting inert surface becomes an excellent base for maintenance paint. Primer also provides a good bond between new metal and paint. Bottles holding 1 gal, 5-gal pails, and 50-gal drums are available. • **Rusticide Products Co.**, 3125 Perkins Ave., Cleveland 14, Ohio.

▲ For more details circle **NED-7 E** on enclosed inquiry slip ▲

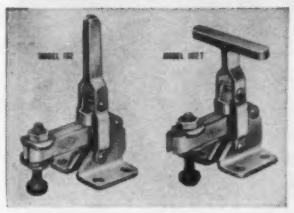
ELECTRONIC MIST ELIMINATOR
prevents pollution of shop air



Oil mist, smoke, and fumes are removed from air exhausted from such operations as machining and welding by the Misti-Maze electronic mist precipitator. This compact, self-contained unit is made up of a blower, filter, and electrostatic precipitator. It prevents objectionable pollution of the shop air to maintain good working conditions. Air exhausted from unit is recirculated, thus minimizing air conditioning and heating costs. Only simple duct work is needed to connect the machine or room creating the mist or fumes. Mist particles can be collected in the reservoir for re-use. Capacities are 600 and 1200 cfm. • **Air-Maze Corp.**, 25000 Miles Rd., Cleveland 28, Ohio.

▲ For more details circle **NED-8 E** on enclosed inquiry slip ▲

MINIATURE TOGGLE CLAMPS
afford 100-lb holding pressure



Miniaturized toggle clamps with holding pressure of 100 lb are available with either a straight vertical handle (Model 102) or a T-handle (Model 102T). Clamps are designed for light-duty assembly operations and have base hole center distances spaced to fit aircraft and electronic pegboard fixtures. Clamps have neoprene-tipped spindles and stainless pivot pins. Both are available with a straight base when desired. Prices range from $1.40 to $2.15 each, depending upon quantity ordered. • **Detroit Stamping Co.**, 330 Midland Ave., Detroit 3, Mich.

▲ For more details circle **NED-9 E** on enclosed inquiry slip ▲

FLOOR MACHINE
for cleaning, polishing, maintenance

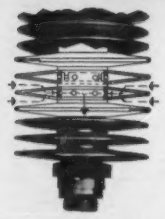
One-hand operation without vibration, bucking, rolling, or bumping is possible with this Tornado Series 200 floor machine. Its high torque motor starts under load and will operate continuously under a 25 per cent overload without excessive heating. Safety is assured by non-loosening handle height adjustment, recessed switch lever, nonmarking vinyl bumper, grounded three-wire cord, and vertical switch lever position which prevents accidental or unauthorized starting. Machines are available in 15-in. brush size with ½, ¾, or 1-hp motors; 17-in. size with same three motors; 19-in. size with ¾ and 1-hp motors; and a 1-hp 22-in. brush size. Royalite solution tanks for rug or carpet cleaning are optional. • **Breuer Electric Mfg. Co.**, 5100 N. Ravenswood Ave., Chicago 40, Ill.

▲ For more details circle **NED-10 E** on enclosed inquiry slip ▲

Maximum filter surface in minimum volume

SMX

SURFAMAX all stainless steel FILTERS



- Cleanable—easy to service
- Corrosion-resistant
- Low pressure drop
- For −360 F. to 900 F.
- 0.1 to 1000 gpm

Top and bottom surfaces are porous stainless steel. Available with spacers for cake collection.

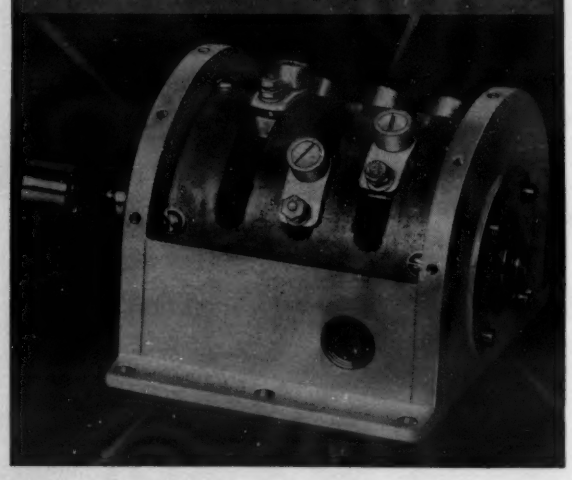
Stock or custom orders
SEND FOR FREE CATALOG

MICRO METALLIC
A Division of PALL Corporation
30 Sea Cliff Ave., Glen Cove, N.Y.

▲ For more details circle NED-11 E on enclosed inquiry slip ▲

NEW ROTARY SWITCH
FOR HEAVY DUTY USE

Adaptable to cycling equipment where safety, dependability and long life are a requisite

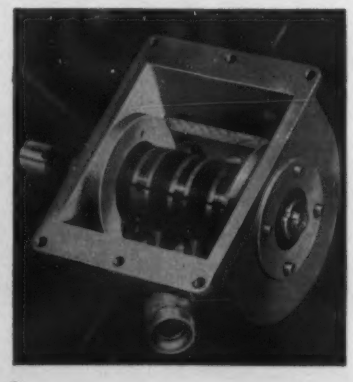


Its broad applicability is an important feature of Superior's *new* rotary switch. Its flexible basic design enables it to be used advantageously on existing cycling equipment; also makes it adaptable to many O.E.M. applications. The switch shuts off power at the end of each cycle and automatically starts the cycle unless interrupted. Safety is a bonus feature with a new high attained in dependable, long ring life. . . Send us your current requirements and other data for our quotation.

•

Superior's wealth of experience in powder metallurgy insures the right selection of brush, ring and insulation materials to fit your electrical specifications. For the first time in this type of switch, arcing and subsequent material breakdown are definitely retarded.

Photo at right shows rings after having operated 2,000,000 cycles.



Superior CARBON PRODUCTS, INC.
9115 GEORGE AVENUE • CLEVELAND 5, OHIO

BRUSHES • CONTACTS • SLIP RING ASSEMBLIES
POWDER METAL PARTS • MECHANICAL CARBONS

▲ For more details circle NED-12 E on enclosed inquiry slip ▲

INDUSTRIAL HORNS
operate on standard voltages

Tone of the No. 411 surface-mounted grille type industrial horn with a 103-decibel rating at 10 ft is easily discernible from bells. It is available for all standard voltages. Also offered are No. 441 two-way projector type horn and Type 411F flush models. All are plugging type with fire alarm red or gray finishes. • **National Time & Signal Corp.**, 21800 Wyoming Ave., Detroit 37, Mich.

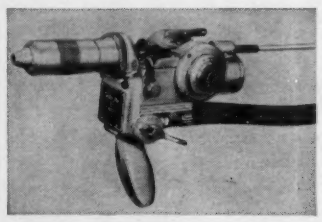
▲ For more details circle NED-13 E on enclosed inquiry slip ▲

DOWEL PIN ASSORTMENT
kit contains 10 each of 16 sizes

Dowels are contained in separate compartments of this assortment kit for easy selection, with a lift-out tray revealing the bottom section. It includes 10 each of 16 widely used pin sizes. A diagram on the box lid shows the location of each size. Refills are available. • **Producto Machine Co.**, 990 Housatonic Ave., Bridgeport 1, Conn.

▲ For more details circle NED-14 E on enclosed inquiry slip ▲

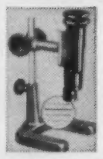
CERAMIC COATING GUN
uses rods of several compositions



Protective ceramic coatings applied by the Rokide spray gun electrically insulate any metal, provide a hard surface that lessens wear, counteract damage caused by temperature extremes, and resist normal metal decomposition. An auxiliary air supply unit contributes to coating application speed and intensity. Extensions enable application in otherwise unreachable areas. The gun automatically heats and melts a 1/4, 3/16, or 1/8-in. rod of the ceramic material, mixes it with oxygen and acetylene, then sprays it on the surface to be protected. Aluminum oxide, zirconium oxide, chrome oxide, zirconium silicate, and other ceramic compositions withstand −150 to 3500-4000° F temperatures. • **Metallizing Co. of America**, 3520 W. Carroll Ave., Chicago 24, Ill.

▲ For more details circle NED-15 E on enclosed inquiry slip ▲

UNUSUAL BARGAINS



ERECT IMAGE LOW POWER MICROSCOPE WITH DIRECT READING SCALE RETICLE

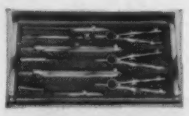
Worth $80 to $100—but use of American-made war surplus optics results in unusual bargain. Reticle has scale .4" long with .005" gradations for 10 power use; and scale .2" long with .0025" gradations for 20 power use. Unlimited applications for direct measuring. Image is erect and correct right to left, optics are color corrected, ample eye relief. Microscope is 6" long, base 4½" x 4½"—can be raised from 8½" to 13".
Stock No. 70,266-AE ..... **$29.95 Postpaid**

Order by Stock No.—Check, M.O. or Open Account—Money-back Guarantee

NEW! CIRCULAR SLIDE RULE: Pocket Size—Fast—Easy to Use!

Be a Math Whiz! New Circular Slide Rule multiplies, divides, figures fractions, percentages, squares, cubes, roots, proportions, circumferences, areas, retail prices, fuel consumption. Eliminates the confusions of ordinary slide-rules. Priced far lower. Faster, easier to learn and use. Constructed of 2 aluminum discs with plastic indicator. 3½" diameter. Directions included.
Stock No. 30,336-AE ..... $4.95 Postpaid

Order by Stock No.—Check, M.O. or Open Account—Money-back Guarantee



CLOSE OUT! MECHANICAL DRAWING SET

Regular Price $18.00, Our Price Only $8.00 Ppd. American manufacturer couldn't compete with foreign imports—thus you get a terrific bargain, even far below import prices. 10 handsome pieces in velvet-lined case. Nickel plated brass — precision American-made. We guarantee you'll be satisfied or money refunded.
Stock No. 50,200-AE ..... **$8.00 Ppd.**

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FREE! Giant CATALOG of OPTICAL BUYS!

OVER 1,000 OPTICAL ITEMS . . . Many on-the-job helps . . . quality control aids! 128 pages — hundreds of illustrations. Many war surplus bargains! Imported instruments! Lenses, Prisms, Magnifiers, Telescopes, Satellite Scopes, Microscopes, Binoculars, etc. Optics for industry, research labs, experimenters, hobbyists, math learning aids. Write for FREE Catalog AE

EDMUND SCIENTIFIC CO., Barrington, N. J.

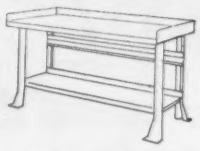
▲ For more details circle NED-16 E on enclosed inquiry slip ▲

PARENT METAL PRODUCTS Philadelphia Penna. QUALITY

storage base & leg base WORK BENCHES

BENCH SIZE
72" L. 24" D. 32¾" H.
TOP
1¾" Laminated Maple
LOCKER OPENINGS (8)
12" W. 21" D. 15" H.

No. 72-24-408 B



Send for Work Benches Catalog TODAY — and specify PARENT for your next shop equipment requirement.

Beat the storage problem and keep working surfaces clear with PARENT Locker Base Woodworking Benches. Eight roomy steel box lockers furnish storage space for tools, tool boxes or personal belongings. Doors equipped with spring hinges and padlock attachment or flat key rim locks which may be master keyed. Benches can be furnished with additional lockers and with tops from 5' to 12' lengths. Leg bases and cabinet bases also available.

PARENT METAL PRODUCTS
INCORPORATED
6801 State Road • Dept. N-11 • Philadelphia 35, Pa.

▲ For more details circle NED-17 E on enclosed inquiry slip ▲

Browning VARIABLE PITCH SHEAVES

Now you can get famed Browning quality in *motion controlled* variable speed drives, for 1/6 to 2 hp requirements. Browning's new spring loaded sheave replaces any ordinary sheave, driver or driven, to provide a wide range simply by adjusting center distance. In combination with the new manually controlled type, twice the normal range is achieved with no change in center distance and without misalignment. Convenient bracket knob permits infinite speed control. Each sheave in four sizes, 3" to 6" OD. Ask your Browning Distributor for Catalog SL-101, or write **Browning Manufacturing Company, Maysville, Kentucky.**

Browning POWER TRANSMISSION EQUIPMENT

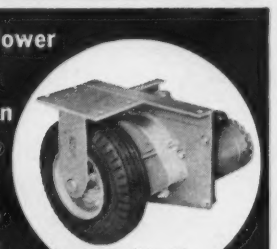
FOR PROMPT DEPENDABLE SERVICE CONSULT YOUR BROWNING DISTRIBUTOR

▲ For more details circle NED-18 E on enclosed inquiry slip ▲

REVOLUTIONARY NEW Power Caster makes Possible Amazing LOW PRICES on

Electromite®

TRUCKS and TRACTORS for Materials Handling



U. S. PAT. NO. 2,923,365

Electromite offers you trucks and tractors priced up to 50% LESS than comparable models on the market! Driven by the famous new M-2 motorized caster, Electromite models have finger-tip controlled forward and reverse speeds up to 4 M.P.H., are fume-free, noise-free, will pull a 10% grade with ease, and operate off inexpensive 6-volt truck batteries. All models include built-in recharger that plugs into any 110-volt outlet . . . are available in 8" and 10" wheel sizes.

ELECTROMITE TOW TRACTOR

Built to operate in close quarters, this model is ideal for freight terminal and warehouse use.

ELECTROMITE PLATFORM TRUCK

Transports loads up to 1200 lbs.; makes a "one-man" job where 2 or 3 were formerly needed.

WRITE FOR DESCRIPTIVE LITERATURE

MORSE CORPORATION | 4285 Morse Street Cincinnati 26, Ohio

▲ For more details circle NED-19 E on enclosed inquiry slip ▲

1/2" long, .02 ounce

GORDOS MINIATURE MERCURY SWITCH

for millions of silent, trouble-free on-off operations

- Requires minimum energy • SPST
- Differential angle 15° • Only 35¢ each

Write today for full information on model HG220LO and on our wide line of industrial mercury switches.

GORDOS CORPORATION 250 GLENWOOD AVENUE, BLOOMFIELD, NEW JERSEY

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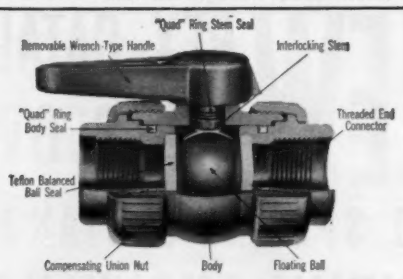

Fast-acting CHEMTROL ball valves CAN'T CORRODE!

Here's a complete line of plastic valves that *cuts replacement costs and downtime wherever acids, alkalies and many solvents are handled!* Made in 5 basic types of plastics; broad chemical resistance as well as good performance in high temperature ranges.

Compact Chemtrol ball valves feature ¼ TURN TO SHUT-OFF, FULL FLOW CHARACTERISTICS, NO TURBULENCE, CONTINUOUS TAKEUP ON REPLACEABLE SEATS, UNION TYPE END CONNECTORS, QUICK DISASSEMBLY!

Chemtrol is the LEADER in plastic valve manufacture!

ASK FOR CATALOG—Many valve types, widest size range in the industry. Dealers in all leading industrial areas.

CHEMTROL
404 West Central Avenue, Santa Ana, California

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CONVEYOR ROLLS
LAWN MOWER ROLLS
PULLEY ROLLS
BY
LAKIN

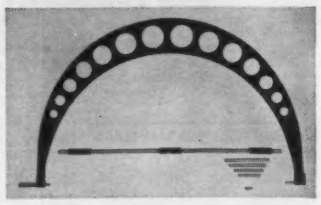
Put extra quality into your equipment with these sturdy, rubber and cord rollers. They have better co-efficient of friction than molded rubber rollers or steel rollers. Lakin engineers have a wealth of experience in the installation of these rollers to many unusual applications. Write or phone for further information.

Pat. Nos. 2,416,123 2,416,124 2,690,752

A. LAKIN & SONS, INC.
2044 N. Dominick St., Chicago 14, Ill. • GRaceland 7-2444

▲ For more details circle NED-22 E on enclosed inquiry slip ▲

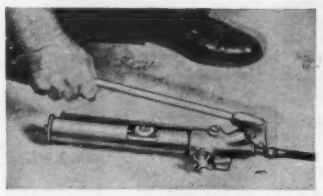
MICROMETERS
two models cover 12 to 36-in. range



Malleable iron frames with lightening holes are used in two micrometers. They incorporate an adjusting nut assembly which fully engages with the spindle thread, making the instrument shockproof. A 3-in. range micrometer has measuring capacities from 15 to 18 in. through 33 to 36 in. The 6-in. range instrument has six interchangeable anvils that measure from 12 to 18 in. through 30 to 36 in. Larger sizes from 36 to 42 in. through 54 to 60 in. are specials. • **J. T. Slocomb Co.**, 68 Matson Hill Rd., South Glastonbury, Conn.

▲ For more details circle NED-23 E on enclosed inquiry slip ▲

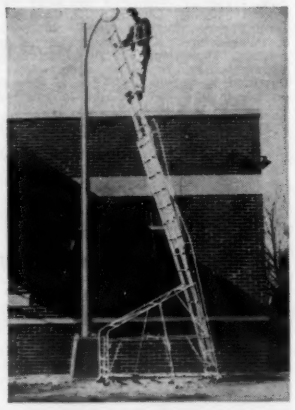
HYDRAULIC HAND PUMP
midget unit for 2 and 4-ton rams



Only 14 5/16-in. long, the No. Y28-A midget hydraulic hand pump develops 8650 psi. It is designed to operate OTC 2 and 4-ton capacity single cylinder rams. Piston area is 0.110 sq in., diameter is ⅜ in., stroke is 9/16 in., and oil capacity is 13.5 cu in. Hose outlet is tapped for ¼ in. NPT. • **Owatonna Tool Co.**, 436 Cedar St., Owatonna, Minn.

▲ For more details circle NED-24 E on enclosed inquiry slip ▲

STRADDLE LADDER
consists of two 14-ft sections



Equipped with collapsible outriggers, the Bally-Hi repair and maintenance ladder will straddle obstructions. The two-section aluminum extension ladder permits safe working at heights up to 30 ft. Supporting steel frame is moved from job to job on 4-in. swivel type casters. Ballylock on the ladder end anchors the frame firmly when the user steps on the ladder. Lock remains engaged until released by foot pressure. Screw type leveling jack on the other end assures a steady position at any location or level. Width with unfolded outriggers is 97 in. Collapsed height of 11 in. and width of 30 in. permit passage through ordinary doorways. • **Ballymore Co.**, Lincoln & Garfield Avenues, West Chester, Pa.

▲ For more details circle NED-25 E on enclosed inquiry slip ▲

WITH A STANDARD LINE OF DUFF-NORTON WORM GEAR JACKS

The economies of standardized production can be realized by use of Duff-Norton Worm Gear Jacks for accurate positioning of loads weighing as much as several hundred tons. This standard line of eight jacks ranges from 2 to 100 tons in capacity which will meet almost any requirements. When jacks are used in an arrangement, added economy can be realized in raising unevenly distributed loads, since all models now have a uniform raise which permits jacks of varying capacities to operate in unison. Worm gear jacks are furnished with standard raises from 6 to 24 inches. Special raises can also be furnished. Write for Bulletin AD-66-N. **Duff-Norton Company, P. O. Box 1889, Pittsburgh 30, Pa.**

▲ For more details circle NED-26 E on enclosed inquiry slip ▲

Finish parts up to 100 times faster with AIR-CUSHIONED vibration

The Pangborn Air-Cushioned Vibratory Finishing Machine is perfect for cleaning, descaling, radiusing, fine-finishing or burnishing metal and metal alloy parts, suitable plastic and ceramic items.

- Works up to 100 times faster than conventional methods and at lower cost
- Most compact vibrator on the market
- Air cushion suspension gives automatic leveling and amplitude control
- Does finishing work impossible to do by other means

In 1½, 3, 6, 12 and 18 cu. ft. net capacity sizes. Also auxiliary equipment, media and compounds for every need. Send parts with exact finish specifications, or finished specimen, for sample processing in our laboratory to: Mr. William E. Brandt, PANGBORN CORPORATION, 2400 Pangborn Blvd., Hagerstown, Md.

Pangborn OF HAGERSTOWN

▲ For more details circle NED-27 E on enclosed inquiry slip ▲

Self-Cleaning LA-CO Flux STRETCHES Silver Solder

. . . makes it go FARTHER FASTER

for all Silver Solders in 1125°-100° F. range

It's a fact! La-Co Silver Solder Flux incorporates a powerful self - cleaning action that can actually stop waste of expensive silver solder. It dissolves all refractory and non-refractory oxides—clears the way so solder can penetrate into every tiny crevice. Every drop of solder is put to work; you use just as much as necessary to get a perfect joint . . . and no more. Yet with all this built-in muscle La-Co Silver Solder Flux is completely acid-free . . . completely safe to work with . . . can't stain, pit or corrode metals. Packed in tins for added safety. Won't harden or crystallize.

Flux problems? Let us help; no obligation!

Look for La-Co at your supply house . . . or write on your letterhead for samples.

LA-CO BRAND

THE LAKE CHEMICAL CO.
3053 W. Carroll Ave. • Chicago 12, Ill.

▲ For more details circle NED-28 E on enclosed inquiry slip ▲

Permanently Marks Anything Iron or Steel

IDEAL

"UNIVERSAL"
ELECTRIC ETCHERS

As easy to use as a pencil . . . Burns a smooth, permanent mark into metal. Dozens of marking uses in every plant. Cheaper, more reliable than tags or special plates. Pays for itself! Safe . . . portable . . . ready to use! The "Universal" has 4 etching heats from 120 to 700 watts. Other models for all types of work.

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IDEAL INDUSTRIES, Inc., 1032-E Park Avenue, Sycamore, Illinois (IDEAL)
Please send catalog data and price information on IDEAL Etchers.

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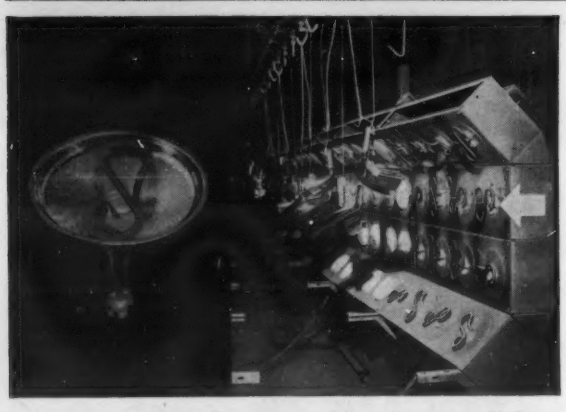
COMPANY_____
ADDRESS_____
CITY_____ ZONE_____ STATE_____
CANADIAN DISTRIBUTOR: Irving Smith, Ltd., Montreal

▲ For more details circle NED-29 E on enclosed inquiry slip ▲



Lamp breakage eliminated by CHROMALOX METARAYS

Glass infrared lamps formerly used in this conveyor line oven were frequently broken by swaying parts.

As lamps break or burn out, they are replaced with unbreakable, self-cleaning Chromalox Metarays. Maintenance is all but eliminated. Dust, dirt and paint dropped from parts in process are burned off by the element. The metal-sheath Metaray heating elements are rated 120 volts, 375 to 1200 watts. Metarays create no glare. Automatic or manual controls. Write today for literature and prices.

91876

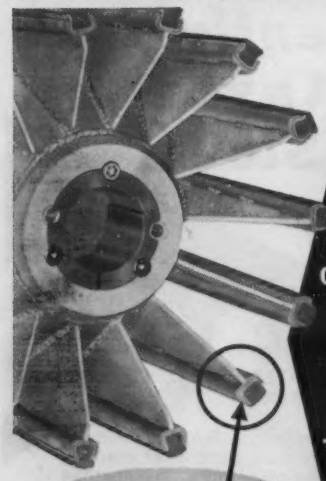
CHROMALOX ELECTRIC HEAT
Edwin L. Wiegand Company
7509 Thomas Boulevard • Pittsburgh 8, Pa.

For more details circle NED-30 E on enclosed inquiry slip

Come to Lord — designers of the original Vibrator, with experience in nearly 100 installations — for the answers to deburring and finishing problems that seem to be beyond other mechanical methods. Lorco Vibrators provide precision-control of finishes, micro-inch tolerances, in shortest possible time cycles. Models for all parts and production requirements. Sample processing service will prove results. Write for complete information.

LORD CHEMICAL CORP.
Substantially owned and controlled by Wheelabrator Corp.
2068-G SOUTH QUEEN STREET, YORK, PA.

For more details circle NED-31 E on enclosed inquiry slip



NOW!
• Positive Cleaning Action
• Less Wear of Conveyor Belts
AT THE
DRIVE .....END
with the NEW
"RUBBER LAGGED"
TURN-CLEAN PULLEY

WRITE FOR FREE SAMPLE

... And Full Information on How to Solve Difficult Drive Pulley Problems

VAN gorp MFG., INC. Dept. NED Pella, Iowa

For more details circle NED-32 E on enclosed inquiry slip

NEW EQUIPMENT DIGEST
A PENTON PUBLICATION

PENTON BUILDING, CLEVELAND 13, OHIO • MAin 1-8260

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New Equipment Digest is published monthly by The Penton Publishing Co., Penton Building, Cleveland 13, Ohio and is sent without cost to engineering, specifying, or buying officials of companies listed in Dun & Bradstreet as a manufacturer or processor. It is also sent free to key executives of railroad, steamship, and transportation firms. It is not sent to salesmen, representatives, or other distributors. Paid subscriptions are not accepted. Qualified men can apply for a free subscription by filling out the coupon on the inquiry slip enclosed in this issue. Accepted as Controlled Circulation Publication at Cleveland, Ohio.

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BPA NBP

Distribution this issue 85,500 copies

Standard Socket Screw Items

Standard Pressed Steel Co.—Both standard catalog data and extensive design and performance information are provided by 82-page technical reference Catalog 2335 on Unbrako socket screw products. More than 2800 items are covered, including socket head cap, set, shoulder, and button head screws, pressure plugs, and socket screw keys. Catalog is compiled to answer 90 per cent of those questions which have led to salesman callbacks.

For more details circle NED-33 E on enclosed inquiry slip

Logan Universal Couplings permit hook-up at either end of sections. No need to turn end for end . . . all ends fit!

LOGAN WHEEL CONVEYORS are easier to use because they set up rapidly—take down and store conveniently. They're ideal for loading and unloading work—for use indoors or out. The live-acting, ball bearing wheels operate on a minimum of grade. Write for literature and prices.

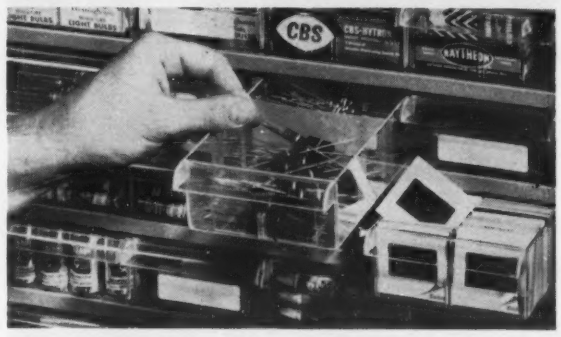
LOGAN CO., 215 CABEL ST., LOUISVILLE 6, KY.

Logan Conveyors

For more details circle NED-34 E on enclosed inquiry slip

CUT COSTS with PLANNED SMALL PARTS STORAGE!

Conserve valuable space, reduce costly "looking" time with Akro-Mils Small Parts Storage Cabinets. 102 Stock models available, others can be built to your specifications.



Complete study in the science of efficient small parts storage for offices, factories, laboratories, homes.

SEND FOR FREE STUDY! Ask for Bulletin F. S.

A-M AKRO-MILS, INC.
Box 989Q • Akron 9, Ohio

For more details circle NED-35 E on enclosed inquiry slip

NEW REX CATALOG LISTS OVER 1900 SPECIAL & STANDARD CONTINUOUS HINGES

You'll find this catalog a handy, easy-to-use reference on continuous hinges for almost every application. In addition to the listing of standard models, there is a section devoted to special hinges of the type which can be engineered to meet your specific requirements! You'll like Rex service too, because over thirty-one years of manufacturing experience insures parts to print . . . rigidly controlled quality . . . and quick delivery.

WRITE FOR ILLUSTRATED CATALOG

REX HINGE COMPANY
1540 COIT AVE., EAST CLEVELAND 12, OHIO
"Everything hinges on Rex"

For more details circle NED-36 E on enclosed inquiry slip

PERFORMANCE GUARANTEED!
Up to 3 times better than ordinary blades

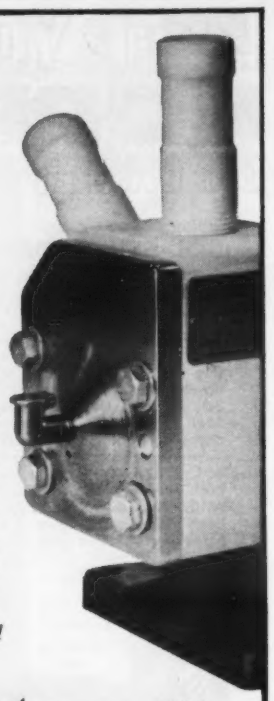
The biggest advance ever in metal cutting band saw blades — that's Simonds *SUPER* High Speed Steel Metal Band Saw. No matter what ferrous metal you're band sawing, this brand new blade will give you *up to 3 times better performance* than any High Speed Steel blade you're now using.

An entirely new concept in band saws, this new *SUPER* High Speed Steel Band features new steel, new manufacturing methods, new heat treatment, new welding techniques, new final inspection. It's so good, we're offering it on a Performance Guaranteed basis.

The sooner you try it, the more you'll save! You can get prompt delivery now from your Simonds Industrial Supply Distributor or your nearest Simonds Branch in Boston, Chicago, Shreveport, La., San Francisco, Portland, Ore. Or write us for complete details.

SIMONDS SAW AND STEEL CO.
FITCHBURG, MASSACHUSETTS

For more details circle NED-37 E on enclosed inquiry slip



SEALLESS PLASTIC PUMP

Self-priming, non-agitating, without troublesome shaft seals or stuffing boxes, these uniquely designed pumps with 54 plastic body and liner combinations require little maintenance, can't leak or contaminate. Available in capacities from ⅓ to 40 GPM to discharge pressures of 60 PSI with temperature ranges from −60°F to +400°F.

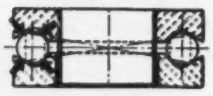
Write for free catalog and Specification Information

Vanton PUMP & EQUIPMENT CORP.
DIVISION OF COOPER ALLOY CORP., HILLSIDE, NEW JERSEY

▲ For more details circle NED-38 E on enclosed inquiry slip ▲

Auburn CAN SOLVE YOUR THRUST BEARING PROBLEMS

Equipped with the specialized knowledge gained thru some 70 years experience, Auburn Ball Bearing is in position to render a wide variety of service, and to solve any ball bearing problem. Auburn will design and manufacture ball bearings to requirements, or will supply standard bearings. A unique feature of Auburn thrust bearings is that the bearing loads are carried at four contact points rather than the usual two.



• Let us help solve your thrust bearing problems

Auburn BALL BEARING CO.
Dept. M, 28 Industrial Street, Rochester 14, N. Y.

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SOLVE DOZENS of Production Problems!

with New, Versatile **kleen-stik**® *Pressure-Sensitive* 2-SIDED ADHESIVES IN TAPE FORM

Instantly Bonds Anything...to Anything!

Wherever you use an adhesive — you can probably do the operation faster, better, more economically with new KLEEN-STIK 2-sided adhesives! Thin, tough film *double-coated* with special moistureless adhesive, sticks tight to most surfaces. Replaces *and outperforms* glues, cements, gummed tapes, tacks, clips, nails, screws, staples, etc. — in hundreds of everyday applications!

"Customized" to your needs! Available in handy Dispenser Pack or large rolls, in standard ½", ¾", or 1" width, with exclusive "Finger-Lift" edge. Also in bulk rolls up to 54" wide.

SAVE TIME AND MONEY IN ALL THESE OPERATIONS!
• Mounting • Holding • Attaching • Splicing • Anchoring • Joining • Fastening • Assembling

SPECIAL OFFER! PROVE KLEEN-STIK in your own plant. Send $1.00 for regular $1.79 — 108 ft. Dispenser Pack.

kleen-stik Products, Inc.
Industrial Division
Dept. N 7300 West Wilson Avenue • Chicago 31, Illinois

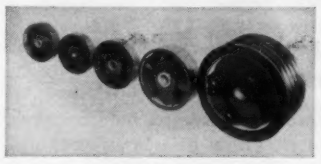
▲ For more details circle NED-40 E on enclosed inquiry slip ▲

DOOR SWING CONTROL
hydraulic cushioning slows closing

Offset or center-pivoted doors of every type can be equipped with the Hydra-Cushion door control. It is concealed in the floor to provide hydraulic cushioning at the end of the swing opening cycle, at the same time eliminating stresses on hinges and door frames. Unit incorporates a back stop. Approaching closed position, the door latching speed is slowed by hydraulic cushioning. Door is held open at both 90 and 105 degrees by an optional hold open device. • **Republic Industries, Inc.**, Dor-O-Matic Div., 7350 W. Wilson Ave., Chicago 31, Ill.

▲ For more details circle NED-41 E on enclosed inquiry slip ▲

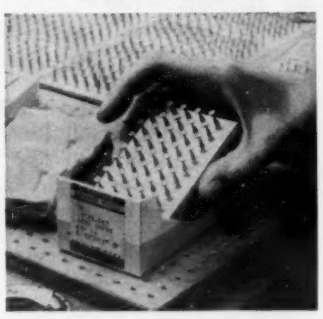
AUTOMATIC CLUTCHES
for 1 to 100-hp gasoline engines



Wear distributed evenly over the entire lining area, 360-degree friction surface, and sealed ball bearings protected from acceleration heat are features of Centri-Dyne automatic clutches. Usable on 1 to 100-hp gasoline engines, they can be relined without using special tools, dismantling of rotor parts, or resetting or adjusting. Applications include industrial and agricultural equipment, refrigeration compressors, golf carts, helicopters, and gas turbines. • **Salsbury Corp.**, Power Transmission Div., 1161 E. Florence Ave., Los Angeles 1, Calif.

▲ For more details circle NED-42 E on enclosed inquiry slip ▲

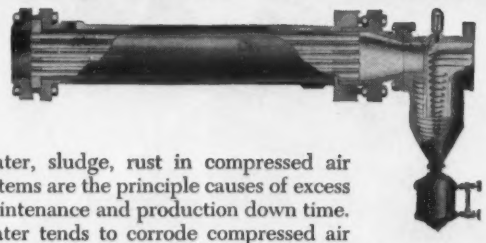
MOUNTED GRINDING WHEELS
diameters as small as 0.036 in.



Extremely small diameters of Minigrind precision mounted grinding wheels make it necessary to use them at high speeds to insure proper grinding action. Even at 100,000 to 150,000 rpm, the surface feet per minute of the wheels sometimes is as low as 1000. Wheel diameters range as small as 0.036 in. and as thin as 0.016 in. In use, ratio of stock removal to wheel wear is often very high. Developed for miniature bearing manufacture, wheels are also used in tool and die making on jig grinders. • **Norton Co.**, Product Engineering Dept., Worcester 6, Mass.

▲ For more details circle NED-43 E on enclosed inquiry slip ▲

An Adams Aftercooler Can Eliminate Your Compressed Air Troubles



Water, sludge, rust in compressed air systems are the principle causes of excess maintenance and production down time. Water tends to corrode compressed air lines and in winter months will actually freeze exposed systems. It is not uncommon for water to freeze in compressed air tools. Of course, some water can be eliminated by periodic blow-down of the air receiver. However, this represents a considerable loss of power.

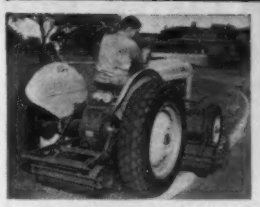
These problems can be eliminated by the installation of an Adams Aftercooler and Cyclone Separator. By cooling the discharge air to within 10° of the cooling water temperature, the moisture and oil can be removed at the separator before the air passes into the receiver. The pressure loss is negligible—only ½ pound across the entire unit.

Why not investigate this low cost means of greatly increasing your compressed air operating efficiency? Write today for Bulletin 714.

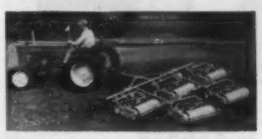
R. P. ADAMS CO., INC.
227 EAST PARK DRIVE, BUFFALO 17, NEW YORK

▲ For more details circle NED-44 E on enclosed inquiry slip ▲

There's a ROSEMAN GANG MOWER for EVERY MOWING NEED!



3 gang lift-type model for Schools, Parks, Institutions, Industrial Plants. Cuts a full 7 foot swath. Lifts to cross curbs and for transport.



5 gang Hollow-Roller Drive model. Develop smooth, beautiful turf as you mow. Used wherever championship turf is desired.

9 gang 21 foot Airfield and Hi-cut models for large acreage mowing.

Complete selection of models available to mow parks, schools, golf courses, estates, institutional and industrial lawns, recreational areas and airfields fast, efficiently and at lowest possible cost.

Rosemans can mow a given area up to 6 times faster and at less cost than other type mowers.

Roseman Hollow Roller models, used on Tam O'Shanter and other outstanding golf courses, develop smooth, beautiful turf areas of Championship caliber.

Roseman quality and non-breakable construction assure years of faithful, trouble-free service.

Roseman Mowers with labor saving and trimming features pay for themselves out of savings.

Use Roseman Gang Mowers on your turf . . . by every standard of performance, quality and finished cut . . . the finest.

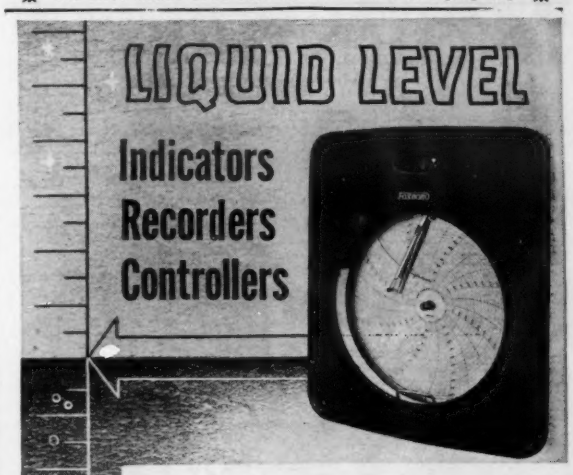
Write for complete details and descriptive literature today.

Available in 1, 3, 5, 7 & 9 gang sizes. Cutting Widths from 30" to 21'. Choice of roller, pneumatic or laminated tire drives.

HOLLOW ROLLER **ROSEMAN** MOWER CORPORATION
EVANSTON, ILLINOIS, U.S.A.
NATION-WIDE SALES and SERVICE • Write or phone TODAY for descriptive literature, prices and availability.

▲ For more details circle NED-45 E on enclosed inquiry slip ▲

LIQUID LEVEL



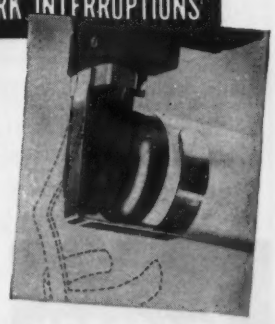
Indicators
Recorders
Controllers

The completeness of the Foxboro Line is your assurance of *unbiased* recommendations on instruments to indicate, record, or control liquid level. Whatever type of system you require (bubble tube, differential pressure, float, diaphragm box) . . . whatever your problem (such as turbulent, viscous, or corrosive liquids, whether in open or pressured vessels)—Foxboro offers the most efficient instruments for the job. Why not consult Foxboro first—and be sure! Write for Bulletin 8-10. **The Foxboro Company, 665 Neponset Avenue, Foxboro, Mass., U. S. A.**

FOXBORO Instruments
REG. U. S. PAT. OFF.

▲ For more details circle NED-46 E on enclosed inquiry slip ▲

STOP! INJURIES AND WORK INTERRUPTIONS from falling fluorescent-tube accidents



Fluorescent tubes sometimes fracture. Vibration and shock may release them from fixtures. Wherever fluorescent lighting is installed there is the possibility of physical injury and property damage resulting from falling tubes.

Don't wait for accidents to happen. For a few cents each you can keep tubes in place, prevent falling, insure against poisoning, contamination and spoilage, avoid injuries, work interruptions and loss of time.

Install Den-El fluorescent lamp guards, easily and quickly, with a screw driver. Permanent, positive protection. Stainless steel. Easily sprung aside for relamping or cleaning. Two guards for each lamp.

Types for all fixtures, also tubes in series
For 40W tubes, per C **$19.00**
For 100W tubes, per C **$22.50**

ORDER TODAY DIRECT
Ask for bulletin, also complete General Scientific catalog of hundreds of other safety equipment items
All orders shipped promptly from Philadelphia

GENERAL SCIENTIFIC EQUIPMENT CO.
7518 Limekiln Pike, Phila. 50, Penna.
HAncock 4-1550
SAFETY EQUIPMENT FOR EVERY HAZARD

▲ For more details circle NED-47 E on enclosed inquiry slip ▲

TEMPERATURE INDICATING LABEL

100°F through 1100°F

Backed with pressure-sensitive adhesive, TEMP-PLATE indicators turn black to record temperatures of mounting surface. Impervious to broad environmental exposures. Temp-Plates detect hot spots and overheating on wheels, wings, brakes, nozzles, skin surfaces, electronic and mechanical equipment of all types. Four models available in one, four, six and eight increments. Write for brochure and price list.

Also available are miniature and sub-miniature temperature operated electrical switches and linear motion actuators; burst diaphragm safety valves and fluid system filters. Details on request.

PYRODYNE, INC.
William Wahl Corporation
11973 San Vincente Blvd. Los Angeles 49, California

▲ For more details circle NED-48 E on enclosed inquiry slip ▲

INGENUITY...*

ALWAYS A SPECIALTY

The last Aztec Emperor of Mexico, Montezuma II, utilized a human conveyor system to transport gold to his vaults. This vast wealth made possible such public works projects as temples, a conduit for Mexico's water supply, and a hospital for ex-soldiers.

Jorgensen CONVEYORS INC. *

After a 30-year background in the manufacture of conveyor systems, Jorgensen is still proving that experience is no barrier to creativeness. This radically different metal flat-bed belt conveyor testifies to the fact that Jorgensen is not hamstrung by "traditional" engineering principles. Jorgensen designs and engineers conveyors and belts specifically for YOU—not for the mass market.

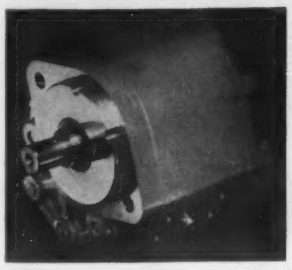
Write today for complete information.

Overhead Conveyors • Floor Systems • Portable Units • Slat • Piano Hinge Apron • Dolly • Elevator • Apron • Chain-on-Edge • All Types of Automatic Material Conveying Equipment

JORGENSEN CONVEYORS, INC., 6208 N. 38th St., Dept. B, Milwaukee 9, Wis.

▲ For more details circle NED-49 E on enclosed inquiry slip ▲

HYDRAULIC GEAR PUMPS
five series include 20 models

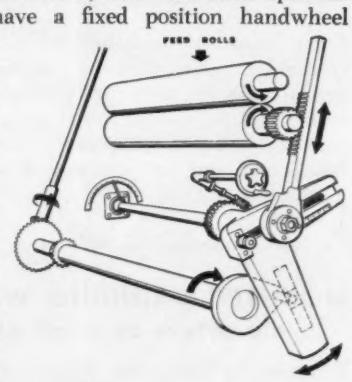


Pressure from the outlet port of five series of hydraulic gear pumps is diverted behind the rear bearings to reduce clearance between bearing faces and gears for optimum volumetric efficiency at all speeds and pressures. Each of five series has four displacement variations, for a total of 20 models. All have side or end porting, or a combination of these, and standard SAE mounting flanges and drive shafts. Tin-aluminum bearings, double lip shaft seal, hardened and ground steel gears and shafts, and high tensile aluminum bodies are incorporated. Capacities range from 0.7 to 140 gpm at 2000 rpm and 2000 psi. • **Borg-Warner Corp.**, Wooster Div., Wooster, Ohio.

▲ For more details circle NED-50 E on enclosed inquiry slip ▲

ROLL FEEDS
have two micro-running adjustments for use on various press types

Accuracy of Littell roll feeds is increased by two types of micro-running adjustments, now offered as optional equipment. Both have a fixed position handwheel control so that it moves only when the operator turns it. Standard micro-running adjustment used on feeds for OBI and small straight-sided presses permits making precision feed length adjustments ±1/8 in. while press and feed are running. The original feed length is set at the two-piece driving disc that connects the feed rack to the press crankshaft.



Combination low level and micro-running adjustment, for use with roll feeds for large straight-sided presses, has its original feed length setting made at floor level. Power for driving is through a take-off shaft geared down to rotate the driving mechanism. • **F. J. Littell Machine Co.**, Automation Div., 4101 N. Ravenswood Ave., Chicago 13, Ill.

▲ For more details circle NED-51 E on enclosed inquiry slip ▲

Sealing Cases with Glue

J. L. Ferguson Co.—Facts and figures on comparative costs and performance of glue-sealing versus other case closure materials are given in 8-page booklet No. 100-57. Glue is described as a superior case closure material.

▲ For more details circle NED-52 E on enclosed inquiry slip ▲

. . . you can save plenty, on die-cut non-metallic washers from Russell

A low, low price isn't your only bonus when you specify Russell. In addition, you get controlled quality which eliminates unnecessary production and inspection costs. Ford, Bendix, General Electric, Westinghouse depend on Russell's "on-time" delivery. Want proof?? Let us quote . . . rubber, cork, plastic, asbestos, felt, cork and rubber, sponge, paper, coated fabrics . . . any quantity. Thousands of stock dies available.

Russell GASKET COMPANY
7424 Bessemer Ave. • Cleveland 27, Ohio • Call DI 1-5500
"Die-cut, non-metallic washers, gasket and seal"

▲ For more details circle NED-53 E on enclosed inquiry slip ▲

KEEP YOUR MEN HOPPING... ON "CARPET-SAFE" FLOORS!

SOL-SPEEDI-DRI®
spreads in seconds, works in minutes...cleans, absorbs oil, grease, liquids for weeks!

All it takes is one man with a rake or broom and a bag of SOL-SPEEDI-DRI to do the job. Super-absorbent SOL-SPEEDI-DRI granules soak up deep deposits from pores of wood or concrete! Non-burning, mineral SOL-SPEEDI-DRI smothers fire! Inexpensive, reusable until completely saturated. Each lb. contains over 13 acres of absorptive area.

For useful Free Sample write—
SPEEDI-DRI DIVISION
Minerals & Chemicals Corporation of America
ESSEX TURNPIKE MENLO PARK, NEW JERSEY

▲ For more details circle NED-54 E on enclosed inquiry slip ▲

Here's data on the *New*

DIAL HEAD AGASTAT®
time/delay/relays

These relays have recently been re-designed—improved in performance *and* appearance. So you'll want up-to-date specs.

This free folder gives complete details on all models. In it you'll find operating specs, timing ranges, contact capacities, dimensions, diagrams of contact and terminal arrangements, and data on mounting and installation accessories.

For your copy, write: Dept. A34-55.

AGASTAT TIMING INSTRUMENTS
ESNA
ELASTIC STOP NUT CORPORATION OF AMERICA
1027 NEWARK AVENUE, ELIZABETH 3, NEW JERSEY

▲ For more details circle NED-55 E on enclosed inquiry slip ▲

CAN YOU USE THIS
GIANT
UNIVERSAL DRIVE?

2,000 hp/1,000 rpm.

Koelling engineers developed the first heavy duty universal drives to connect oilfield mud pumps with powerful engines. Proved by 3 years world wide service, the principles have been incorporated into Torq-Ring Model 500, an industrial universal drive. This new Koelling drive is now available to all industries with special universal drive problems.

KOELLING TORQ-RING FEATURES

1. *Double raced bearing eliminates wear on yoke.*
2. *Open end bearing design, self purging when lubricated.*
3. *Positive mechanical blocks prevent incorrect field assembly.*
4. *Eight inch sliding spline speeds installation and allows for machinery adjustment.*
5. *Choice of flange connection to customer needs.*

Write or call today for engineering information.

KOELLING UNIVERSAL JOINTS, INC.
5526 Dyer Street • Dallas 6, Texas

▲ For more details circle NED-56 E on enclosed inquiry slip ▲

ALL BALL BEARING DRILL AT A LOW PRICE

One of 10 new Porter-Cable Drills

Precision chuck of new Model 355 eliminates use of key—change bits with twist of wrist. Chrome steel ball bearings in keyless chuck provide easy handlocking and positive self-tightening action—with extraordinary gripping power. Its many Porter-Cable professional-quality features include all ball bearings, enclosed gears, rugged 2.8 amp motor. See it at your Porter-Cable Distributor or write for folder.

Porter-Cable *Quality Power Products*

PORTER-CABLE MACHINE CO.
6125 Marcellus St., Syracuse, N. Y.

▲ For more details circle NED-57 E on enclosed inquiry slip ▲

FREE PUBLICITY

LET THE READ BROTHERS LAUNCH YOUR NEW PRODUCTS *with dynamic sales-producing* PRESS RELEASES!

- Our publicity, pictures and stories are being widely accepted by publications everywhere as items of especial interest to their readers.
- The response is tremendous if your product is new.
- Low pre-stated fee for preparation of material. Complete package deal.

In Magazines, Newspapers, Radio--TV

20 YEARS OF OUTSTANDING RESULTS

Send at once for full information

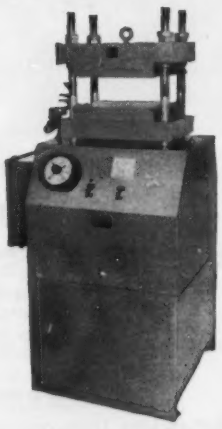
READ BROTHERS
Advertising—Publicity
203 N. WABASH AVE.
CHICAGO 1, ILL.

▲ For more details circle NED-58 E on enclosed inquiry slip ▲

ECONOMICAL

SMALL PARTS PRODUCTION with this *new* WABASH 30-TON HYDRAULIC "POWER-PACK" PRESS!

- Convenient height—easy to insert molds.
- Self-contained — built-in "power pack" — just wire into 220 volt line.
- Up and down acting.
- Accurate heat and pressure controls.
- Jig-bored guide holes in platens—chromed steel columns.
- Economical to buy and to operate. Send for literature.



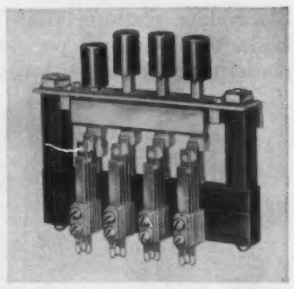
Makers of Wabash Platens—Electric or Steam Heated—Water Cooled.

- Presses from 3 to 50-tons.

Wabash Metal Products Co.
1506 MORRIS ST., WABASH, INDIANA

▲ For more details circle NED-59 E on enclosed inquiry slip ▲

PUSHBUTTON SWITCHES
standard and lighted types



Data systems, signal controls, and test fixtures are among the applications for standard and lighted multiple pushbutton switches. Variety of switching requirements and button actions are available, as are a number of contact arrangements. Depth behind panel is 2⅝ in. for standard type and 4¼ in. for lighted type. Buildups can be mounted on one or both sides to insure a minimum amount of operating pressure. Lighted switch has bayonet lamp base adapter. • **General Control Co.,** 1200 Soldiers Field Rd., Boston 34, Mass.

▲ For more details circle NED-60 E on enclosed inquiry slip ▲

WIRE ROPE CUTTERS
two sizes cut up to 1¼-in. rope

Tempered tool steel blades and malleable iron body, side, and handle socket are incorporated in Model B and C wire rope cutters. The hand operated, front lever, bench type tools use interchangeable parts. New Model B cutter will cut up to ⅝-in. wire rope and up to ⅜-in. prestressed cable. Previously available Model C cuts wire rope up to 1¼ in. and prestressed cable larger than ⅜ in. Rods, angles, channels, and flat bars are also cut by the tools with auxiliary blades. • **T. H. Lewthwaite Machine Co.,** 311 E. 47th St., New York 17, N. Y.

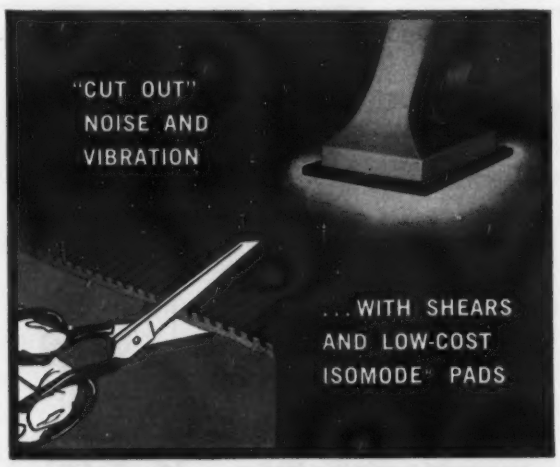
▲ For more details circle NED-61 E on enclosed inquiry slip ▲

HACK SAW BLADES
packaged in color-coded boxes

Quick selection and accurate inventory control result from packaging five different types of Disston hand and power hack saw blades in color-coded boxes. Dura-

flex blades are green in color and packaged in green boxes. Other series and their colors are: High speed steel power and hand blades, gray; Super Safe hand blades, tangerine; Di-Mol hand and machine blades, black; and Chromol hand blades, buff. • **H. K. Porter Co.,** Disston Div., Unruh & Milnor Streets, Philadelphia 35, Pa.

▲ For more details circle NED-62 E on enclosed inquiry slip ▲



All you need is a large pair of scissors and Isomode Pads—and you effectively cut vibration, plant noise, machine creep and shock on up to 80 tons of equipment.

No bolts, no lags, no holes to drill or fill. Simply cut section from pad to fit machine foot and slip it under. That's it! Cost: less than $1.50 per ton of machinery.

Isomode Pads are completely water and oil-resistant Du Pont Neoprene. Try one—see for yourself. *Send today for special one pad trial offer at discount price.* Ask for Bulletin 418-2.

MB ELECTRONICS
A DIVISION OF TEXTRON ELECTRONICS, INC.
1066 State Street, New Haven 11, Conn.

▲ For more details circle NED-63 E on enclosed inquiry slip ▲

INDUSTRIAL TURNTABLES

ANY SIZE...ANY SERVICE

One use: 9-foot movable industrial turntable — variable speed drive, Belmont Smelting and Refining, New York. For other uses in **your** industry, send for CATALOG 15, describing turntables up to 76 ft.

Macton

MACTON MACHINERY COMPANY
866 DYKE LANE • STAMFORD, CONN. • DAvis 4-6161

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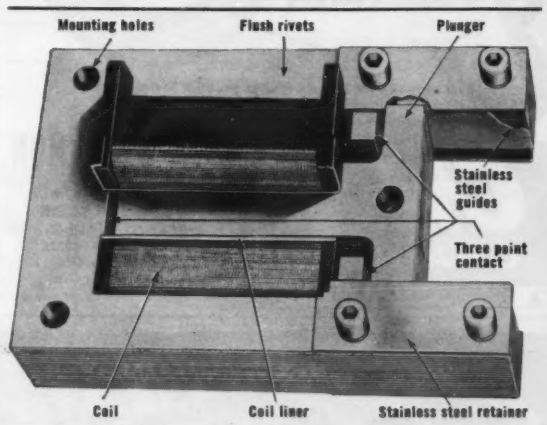
TROMBETTA SOLENOID CORP.

MILWAUKEE WISCONSIN
U.S.A
329 N. Milwaukee Street • Phone BRoadway 1-8347

NA-700 LINE OF SOLENOIDS
The ultimate design in Guided T Plunger Solenoids

Patented March 10, 1959
Developed in 1952
Patent No. 2,877,390

WE DESIGNED THEM!
WE DEVELOPED THEM!!
WE PATENTED THEM!!!
THEY ARE OURS!!!!



No clatter! No chatter!!

FEATURES
Positive three point contact
Heavy stainless steel guides

RESULTS
Longest life expectancy; reliable operation throughout entire life; silent operation in sealed position; mountable in any position, at any angle; no heavy grease required to cover up poor design; no grunting when mounted horizontally.

AVAILABLE
In a multitude of standard sizes, pull or push type; also custom built to satisfy customer's requirements; also for OEM, and replacement trade.

TROMBETTA has the original solenoid. Don't let anyone sell you imitations. Request additional information.

"TROMBETTA"
is the answer to:
ALL SOLENOID QUESTIONS

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Provides proven protection from pneumoconiosis-producing and nuisance dusts

This popular respirator weighs less than 5 ounces, is easy to wear . . . practically unbreakable. More than 40 sq. inches twin filter area. Check valves guard against re-breathing stale air. Free literature on request describing full line of models. Order sample today from your safety equipment supplier or write direct—$3.25 postpaid.

H. S. COVER
Dept. 505, South Bend 14, Indiana

"Respirators for Industry Since 1894"

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Hammerlok®
COUPLING LINK

MAKE UP YOUR OWN HERC-ALLOY SLINGS. No more waiting for new or repaired assemblies to reach you from the factory.

- No peening or welding
- Anybody can assemble
- Stronger than Herc-Alloy chain
- Thoroughly field tested
- Re-useable and SAFE

Write for Bulletin and name of your CM Distributor stocking Herc-Alloy chain, master links, hooks and Hammerlok coupling links.

CM CHAIN

COLUMBUS McKINNON CHAIN CORP.
TONAWANDA, NEW YORK
NEW YORK • CHICAGO • CLEVELAND
SAN FRANCISCO • LOS ANGELES
In Canada: McKinnon Columbus Chain Ltd., St. Catharines, Ont.
HERC-ALLOY®

▲ For more details circle **NED-70 E** on enclosed inquiry slip ▲

PORTABLE
SAND BLAST GUN

A COMPLETE SAND BLAST UNIT *only* $27.50
(Including one spare jet and two spare nozzles)

Operates on 60 to 150 P.S.I. Handles all types of abrasives

A REAL PERFORMER FOR THE SHOP FOR THE LAB

The "Port-a-Blast" is a complete sand blast unit. Simply fill the container with the abrasive material, connect it to your air line and it is ready to go to work.

It is ideal for sand blasting small parts, for removing rust, scale, paint and dirt from those hard to get at places; for texturing and etching metals, glass, ceramics, plastics, woods, etc.

It has solved many complicated cleaning problems in all types of manufacturing plants, and laboratories throughout the United States and Canada. (24" x 24" Blast Booth available)

ORDER ONE TODAY! PAYS FOR ITSELF QUICKLY!

LINDBERG PRODUCTS COMPANY
P. O. Box 908 D Lakeport, Calif.

▲ For more details circle **NED-71 E** on enclosed inquiry slip ▲

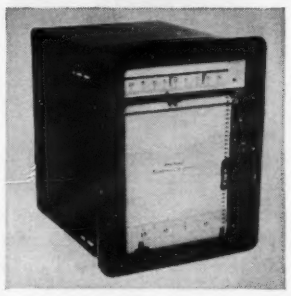
PLATFORM TRUCK & TRACTOR both driven by power casters

Electromite platform truck transports up to 1200-lb loads, travels up 10 per cent grades, and has riding platform and dynamic brakes. Maneuverable Electro-

mite towing tractor is used for light hauling and personnel transportation. It operates with a single foot pedal and forward and reverse switch. Both vehicles are steered by tiller bar and have forward and reverse speeds up to 4 mph. They are driven by the M-2 motorized caster, powered by a 6-v truck battery. A built-in recharger plugs into any 110-v outlet and shuts off automatically when a full charge is reached. Wheel sizes are 8 and 10 in. • **Morse Corp.**, 4785 Morse St., Cincinnati 26, Ohio.

▲ For more details circle **NED-72 E** on enclosed inquiry slip ▲

STANDARD RECORDERS with either one or two set points



Standard Curtiss-Wright recorders can now be equipped with either one or two set points for maximum - minimum control. Feature allows users of these recorders to install warning signals or to control processes without duplication of instruments. There is no interference with writing pen since on-off contacts are inductively coupled to the transistorized control circuit by a vane attached to the pen arm. Maximum set point can be fixed in any position over a range of 30 to 100 per cent of scale, and minimum set point can be used between 0 to 70 per cent of scale. Accuracy varies between 0.5 and 3.0 per cent. The transistorized control feature can also be installed on the left channel of two-channel double-size recorders. • **Curtiss-Wright Corp.**, Princeton Div., Box 110, Princeton, N. J.

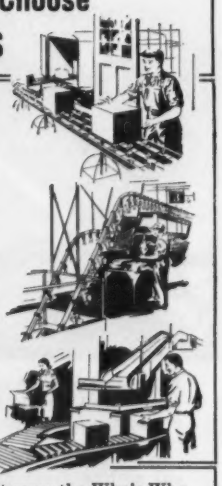
▲ For more details circle **NED-73 E** on enclosed inquiry slip ▲

Electric Solenoids

General Electric Co.—Alternating and direct-current forms of G-E's industrial strongbox solenoids are discussed in 12-page Bulletin GEA-6215B. Solenoids are available in nine different sizes providing 24 basic ratings from 24 to 600 v, 25 to 60 cycles and dc. Bulletin describes their use, flexibility, and how to select them.

▲ For more details circle **NED-74 E** on enclosed inquiry slip ▲

For Cost-Cutting EFFICIENCY in Any Handling Job . . . Choose BUSCHMAN CONVEYORS



PORTABLES
Gravity, powered; roller, wheel, belt: all in standardized line. Quick-Eez Coupling all units permits many low-cost assemblies.

CABLE CONVEYORS
Adapt to many uses, speed production, cut costs. Overhead trolleys easily installed from in-stock units. Smooth running, durable, efficient.

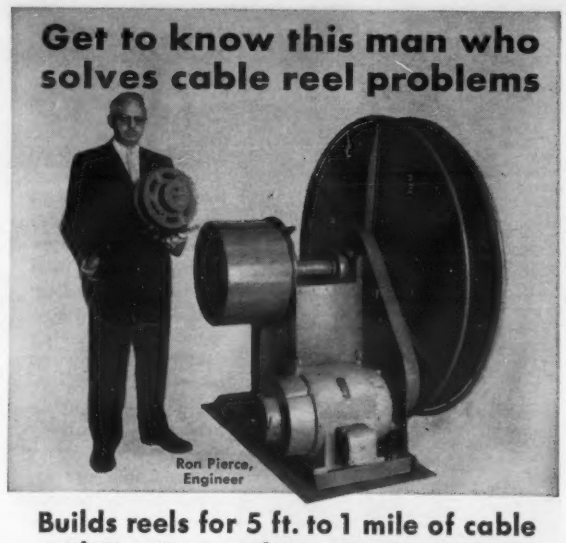
COMPLETELY ENGINEERED
Buschman utilizes every type conveyor needed to make your handling economical, practical. Using Buschman plans and stocked parts, you can install.

Buschman engineering and equipment serve the Who's Who in Industry with all conveyor types. Our experience can help you. Tell us your problems; let us send literature and suggestions. The E. W. Buschman Co., 4482 Clifton Avenue, Cincinnati 32, Ohio.

Buschman CONVEYORS
Complete Conveyor Systems for all Types of Industries—Engineered, Manufactured, Installed
Representatives in Principal Cities
365

▲ For more details circle **NED-75 E** on enclosed inquiry slip ▲

Get to know this man who solves cable reel problems



Builds reels for 5 ft. to 1 mile of cable with 7 unique and important advances

If you provide electric cable reels on equipment you sell—or use them in your plant—it will pay well to consider the unusual Pow-R-Matic reels. Their unique features make substantial savings in manufacture and operations. Write for details.

Aero-Motive
AERO-MOTIVE MFG. CO.
1805 ALCOTT ST. • KALAMAZOO, MICHIGAN

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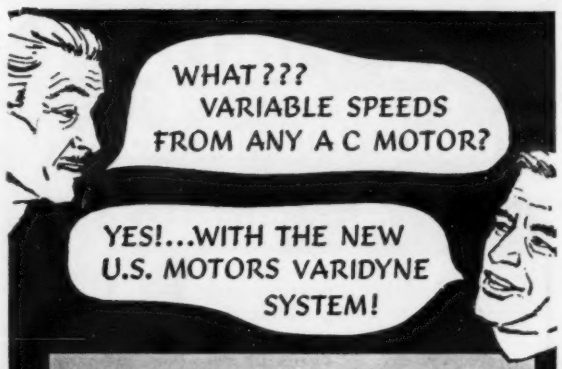


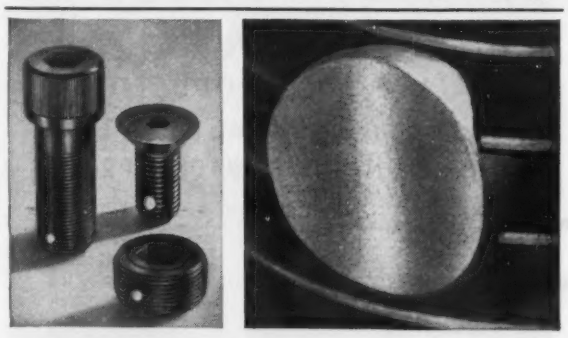
CONTROL *one* OR *many* AC MOTORS—TO THE RPM!

Any AC fixed-speed motors can be converted to variable speeds by this astonishing new U.S. Varidyne system. Works from any Standard AC power line. Eliminates costly DC conversions. Controls may be manual or automatic. Investigate!

Send for FREE Brochure

U.S. Electrical MOTORS
P. O. Box 2058, Los Angeles 54 or Milford, Conn.

▲ For more details circle **NED-77 E** on enclosed inquiry slip ▲



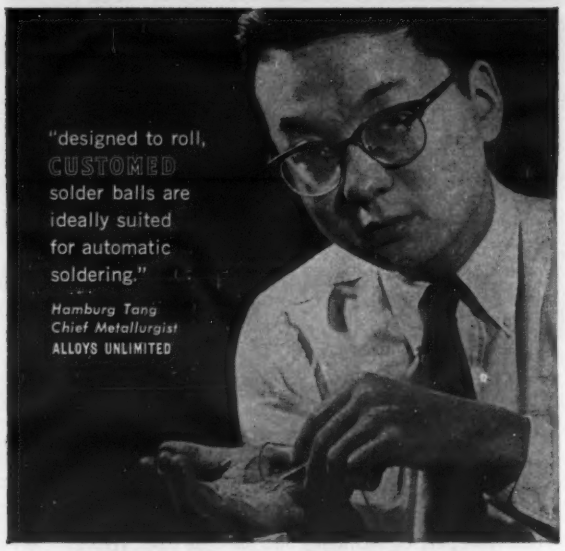
The pellet with positive locking power . . . only with self-locking UNBRAKO!

- Nylok* principle means *maximum* thread area, *maximum* screw strength.
- Simplifies design and assembly, saves weight—no separate locking devices needed.
- Cuts maintenance by drastically reducing time spent checking and tightening joints.
- Cuts downtime—an UNBRAKO with Nylok won't back off even under severe vibration.

Self-locking UNBRAKO socket screws are easily removable, repeatedly reusable, and serviceable from −70° to 250°F. See your SPS distributor or send for Bulletin 2196 and samples.
*T.M. Reg. U.S. Pat. Off., The Nylok Corporation

INDUSTRIAL FASTENER Division **sps**
JENKINTOWN 24, PENNSYLVANIA

▲ For more details circle **NED-78 E** on enclosed inquiry slip ▲



NEW CUSTOMED SOLDER BALLS FEED AUTOMATICALLY

Solder balls, for many applications, are an important improvement over the more common preform shapes in 3 ways. 1. They can be loaded into a jig and rolled into place. 2. Accurate to .001", the correct amount of solder is always assured. 3. Their method of manufacture eliminates costly dies. For complete information, write today!

21-01 43rd Avenue, Long Island City 1, N. Y.

ALLOYS UNLIMITED INC

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LOOK AT THE LEAK-PROOF DYNAPUMP

COMPACT—integral pump-motor weighs only 7 lbs.

EASY TO MAINTAIN—can be serviced with a screwdriver.

RUGGED—wetted parts made of bronze or stainless steel.

VERSATILE—can be installed in any position.

LEAKPROOF—no seals, no stuffing box, self-lubricated.

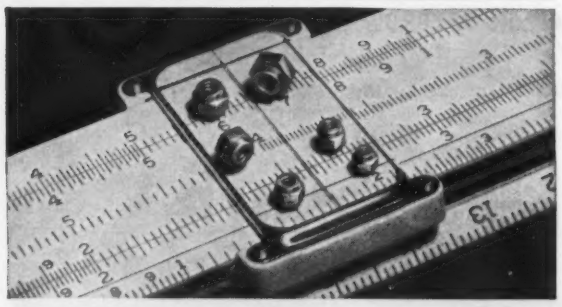
LOW COST—prices start at $30 (OEM)

Write now for information . . . Dynapump Division, Fostoria Corporation, Huntingdon Valley, Pennsylvania.

MODEL 420-D

DYNAPUMP®

▲ For more details circle NED-80 E on enclosed inquiry slip ▲



Microsize FLEXLOCs save weight and space, increase mechanical reliability of your miniature assemblies. Reusable, they are unaffected by moisture, dryness, oil or grease.

Microsize FLEXLOC locknuts protect mechanical integrity of small assemblies

- Hold tight despite impact, shock, vibration
- Require no auxiliary locking elements
- One-piece, all-metal design . . . every thread works, including those in locking section
- Serve as locknuts or stopnuts
- Sizes #0-80 through #4-40 in alloy steel, stainless, aluminum, brass

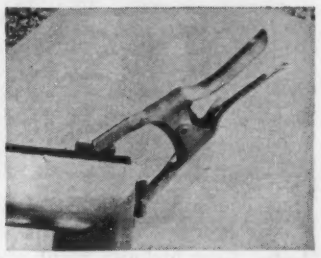
See your authorized industrial distributor. Or write SPS—manufacturer of precision threaded fasteners and allied products in many metals.

INDUSTRIAL FASTENER Division **sps**

JENKINTOWN 24, PENNSYLVANIA

▲ For more details circle NED-81 E on enclosed inquiry slip ▲

SPRING CLAMPS
hold miter joints and flat surfaces

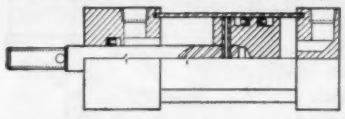


Pivotal jaws which adjust automatically to work surfaces joined at any miter angle enable Multi - Clamp spring clamps to hold all types of miter joints as easily at flat surfaces. Clamps find application in all types of framing, cabinet making, and metal and plastic fabricating. They adapt themselves to frames from ½ to 3 in. wide, irregular shaped moldings, compound miters, and joints greater or less than 45 degrees. Parallel rows of teeth grip work. • **Multi-Clamps**, Dept. D, 5930 Argus Rd., Cincinnati 24, Ohio.

▲ For more details circle NED-82 E on enclosed inquiry slip ▲

MIDGET CYLINDERS
for air or hydraulic service

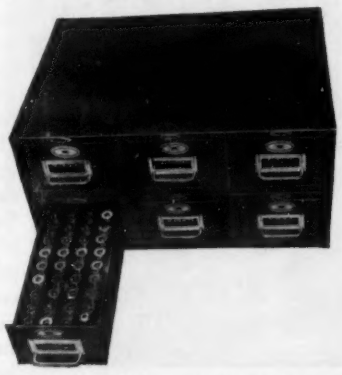
Redesigned midget air and hydraulic cylinders are available with ¾, 1, and 1⅛-in. bores and lengths in increments of 1 in. Block V dynamic packings on piston and rod gland, aluminum pistons with 1-in. bearing length, threaded stainless steel rods, and selection of mounting styles are features. Mark A series is suited for 200-psi air and 750-psi oil; Mark H units, for 2000-psi oil. • **Control Line Equipment**, 19560 Center Ridge Rd., Cleveland 16, Ohio.



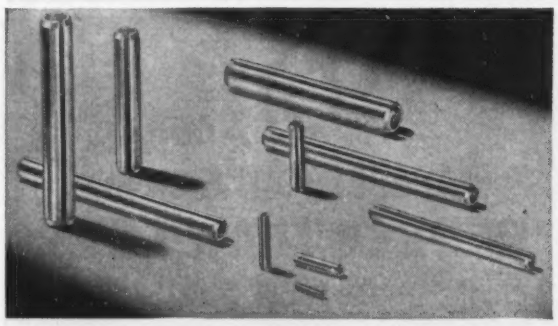
▲ For more details circle NED-83 E on enclosed inquiry slip ▲

PLUG GAGES
line of 251 go and no-go members

Tri-Lock plug gages are precision ground and lapped from Swedish tool steel, oilhardened and heat treated to 63-65 Rockwell C, then stabilized. Line consists of 251 individual go and no-go members in increments of 0.001 in., with a tolerance of ±0.00007 in. Size is engraved on each member and each handle is identified on the no-go side. Price is $2.75 per member in lots of four or more. Steel cabinets are available free of charge with complete or sectional sets. • **Dundick Tool Works, Inc.**, 3410 W. 31st St., Chicago 23, Ill.



▲ For more details circle NED-84 E on enclosed inquiry slip ▲



Versatile—and economical—fasteners... SEL-LOK spring pins

- 101 uses—as keys, cotter pins, axles, hinge pins, wrist pins, stop pins, pivots, etc.
- Eliminate costly tapping, reaming, peening, milling
- Swift fastening—just drill and drive
- Can be reused repeatedly
- Secure locking—won't work loose despite shock or vibration

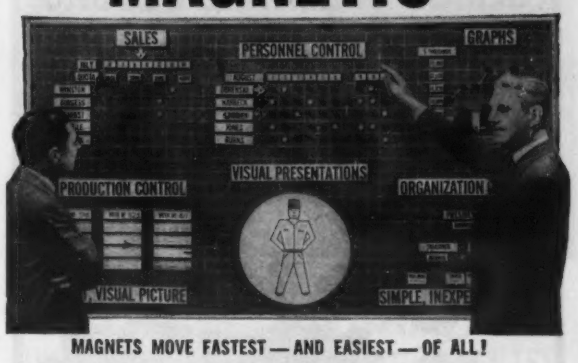
SEL-LOK spring pins are available in carbon and corrosion-resistant steel (from 1/16 x 3/16 through ½ x 5 in.) and beryllium copper (1/16 x 3/16 through ¼ x 3½ in.). See your authorized distributor for details or write us for Bulletin 2331 and samples.

INDUSTRIAL FASTENER Division **sps**

JENKINTOWN 24, PENNSYLVANIA

▲ For more details circle NED-85 E on enclosed inquiry slip ▲

VISUAL MAGNETIC CONTROL



MAGNETS MOVE FASTEST—AND EASIEST—OF ALL!

SIMPLEST VISUAL SYSTEM FOR
- Production
- Personnel
- Sales
- Maintenance
- Scheduling
- Machine Loading
- Charts—Graphs
- Visual Presentations

COLORFUL MAGNETIC ELEMENTS
- show facts instantly
- organize for action
- eliminate mistakes
- get the job done

PRICED FROM $38 INCLUDING MAGNETIC ELEMENTS

PRICE LIST & BROCHURE NES FREE ON REQUEST

REPRESENTATION DESIRED IN SOME AREAS

Methods Research Corp.

105 Willow Ave., Staten Island 5, New York

▲ For more details circle NED-86 E on enclosed inquiry slip ▲

CM Lodestar®

electric hoist

LODESTAR FEATURES INCLUDE:
- Safe, heavy duty performance
- Self-adjusting magnetic brake
- Ultra-modern electric braking
- CM-ALLOY flexible link chain

NEW...Larger capacity and higher speed models in 1/2, 1 and 2 tons for faster, lower cost materials handling.

NOW...Greater selection from a complete range of capacities and speeds...1/8 to 2 tons and 8 to 60 fpm.

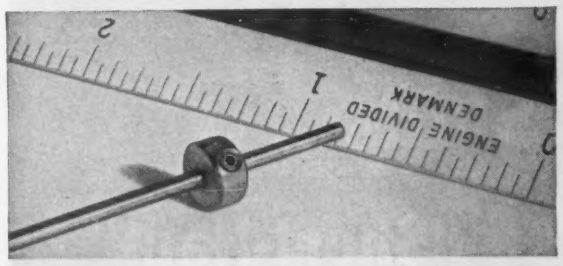
REQUEST CATALOG AND NAME OF LOCAL STOCKING DISTRIBUTOR

CM HOISTS

CHISHOLM-MOORE HOIST DIVISION
Columbus McKinnon Chain Corporation
TONAWANDA, N. Y.
NEW YORK • CHICAGO • CLEVELAND
In Canada:
McKinnon Columbus Chain Ltd., St. Catharines, Ont.

▲ For more details circle NED-87 E on enclosed inquiry slip ▲

NOW! For miniaturized assemblies...



HALLOWELL steel collars in microsizes

- 1/16, 3/32, 1/8 inch bore
- Fitted with UNBRAKO set screws for positive locking action
- Precision machined from finest bar stock
- Extremely versatile—used as thrust collars, locking collars, spacers, cam operators, indexing devices, etc.

Send for Bulletin 868—complete information on all sizes of HALLOWELL steel and cast iron collars.

INDUSTRIAL FASTENER Division **sps**

JENKINTOWN 24, PENNSYLVANIA

▲ For more details circle NED-88 E on enclosed inquiry slip ▲

GEMCO TERMINAL BLOCKS are a SNAP...

TO WIRE
- FULL VISIBILITY
- OPEN TERMINALS
- CAPTIVE SCREW

TO ASSEMBLE
- COMPACT, SEGMENTED CONSTRUCTION
- POSITIVE INTERLOCKING
- AVAILABLE IN 15, 25 AND 50 AMP BLOCKS

TO MODIFY
- SNAP-IN, SNAP-OUT BLOCKS FOR EASY ADDITION OR REMOVAL
- SNAP-IN MARKING STRIP FOR CIRCUIT IDENTIFICATION

TO CHECK OUT
AVAILABLE EQUIPPED WITH TERM-A-FUSE FOR CHECKING OUT FAULTY CIRCUITS IN SECONDS

Available assembled, in kits or in bulk units.
Write for Bulletin 457.

GEMCO ELECTRIC COMPANY
25685 West Eight Mile, Detroit 40, Mich.

▲ For more details circle NED-89 E on enclosed inquiry slip ▲

MOST TUBE FITTINGS

For copper, steel, stainless, aluminum and plastic tube connections

Available from Imperial's complete line: fittings for virtually any connecting job, in a variety of sizes, types, styles, high or low pressure. Also, hose and reusable couplings, tubing tools, fluid control valves.

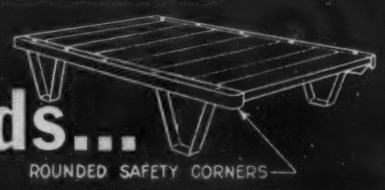
For information on Imperial's complete line of fluid transmission components, write today for Catalog 200, or see your industrial supply house.

20-60

IMPERIAL THE IMPERIAL BRASS MFG. CO.
Dept. NED-50
6300 West Howard St.,
Chicago 48, Illinois.

▲ For more details circle NED-90 E on enclosed inquiry slip ▲

Ironbound



Skids...

"Short-Haul" Skids

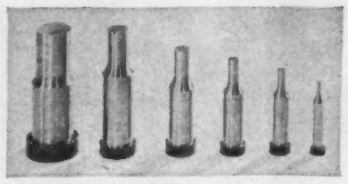
BOUND TO BE BETTER
Ironbound
MATERIALS HANDLING EQUIPMENT

Write for Illustrated Catalog

IRONBOUND BOX & LUMBER COMPANY
55 HOFFMAN PLACE, HILLSIDE, N. J.

▲ For more details circle NED-91 E on enclosed inquiry slip ▲

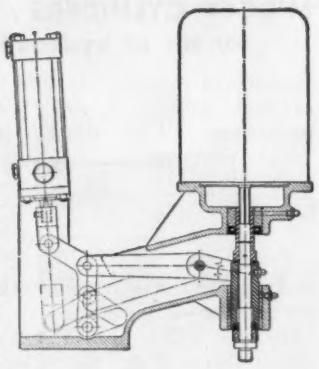
PUNCHES
offered in 58 point diameters



Pups punches are suited for tapping and clearance hole making, rivet or stud hole making, or other uses. Fifty-eight specific point diameters conform to ASTE heavy duty head type punch specifications. Shank diameters range from 3/16 to 1 in. Line includes point sizes for plating allowance, slip or press fit of mating parts, and high limit sizing of open tolerance holes. • **Dayton Perforators, Inc.,** 1336 Stanley Ave., Dayton 4, Ohio.

▲ For more details circle NED-92 E on enclosed inquiry slip ▲

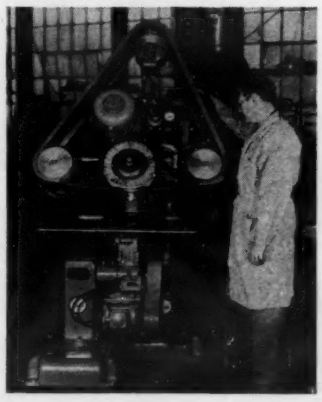
RIVET SPINNER HEADS
self-contained, air-operated units



Unobstructed area beneath the mounting pad allows these rivet spinner heads to be set up in conjunction with dial feeds, or in any other way required for automatic assembly. Designed for automated applications, the air-operated, motor-driven heads are self-contained. Model E head takes 1/8-in. diameter rivets and Model G is for 5/16-in. rivets. • **High Speed Hammer Co.,** 313 Norton St., Rochester 21, N. Y.

▲ For more details circle NED-93 E on enclosed inquiry slip ▲

ABRASIVE BELT HEAD
polishes contoured and flat work



Slack-belt operations and jobs requiring the backing-up of the abrasive belt with a contact wheel or platen are performed on the DLS abrasive belt head for polishing contours and flat work. Wide spacing between the two idler pulleys permits the polishing of sharply contoured work. Pressure regulator, gage, and belt tensioning cylinder control valve are included. Belt length is 132 in., and belt width and drive motor horsepower suit the application. • **Divine Brothers Co.,** Seward Avenue, Utica, N. Y.

▲ For more details circle NED-94 E on enclosed inquiry slip ▲

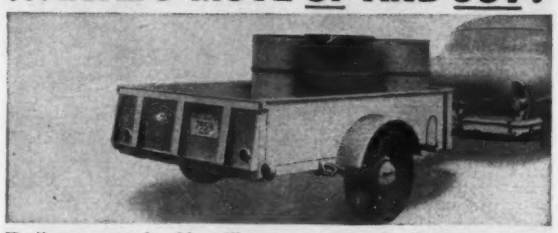
USE
1/4"-SCALE
ADHESIVE-BACKED REPRO-TEMPLETS
ON FILM FOR
ACCURATE PLANT LAYOUTS

Free Experimental Kit Available on Letterhead Request.

REPRO-TEMPLETS INC.
614D Allegheny R. Blvd.
OAKMONT, PENNA.

▲ For more details circle NED-95 E on enclosed inquiry slip ▲

...LOADS MOVE *UP* AND *OUT*!



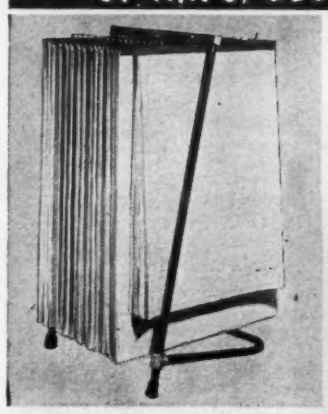
Trailevator puts load handling on a *one-man* basis. Hydraulically lowers to ground level for easy loading . . . then lifts *its own load* to hauling position! Hitches to car, truck or tractor—lowers and lifts without uncoupling. Now used by hundreds of leading companies and institutions. Team up *your* men with Trailevators . . . the *new* way to cut load hauling costs!

WRITE FOR ILLUSTRATED BROCHURE—Trailevator Division
Magline Inc., P.O. Box 15, Pinconning, Michigan

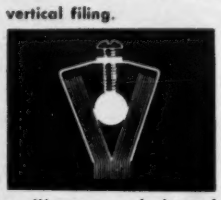
TRAILEVATOR
TAKES THE LIFT OUT OF LOADING

▲ For more details circle NED-96 E on enclosed inquiry slip ▲

FAST AND EASY FILING OF MAPS, BLUEPRINTS...



. . . drawings, logs, and other large sheets is easily and efficiently handled with the Dancer "Stikfile" binder. The entire "Stikfile" System is particularly designed for convenient industrial binding and vertical filing.



The "Stikfile" principle of binding utilizes a metal channel with a hardwood dowel forming a removable core. This core adjusts up or down in order to accommodate a varying number of sheets, wedging sheets firmly between itself and channel when adjusting screws are tightened.

The binders are available in 12 stock lengths with racks (one style illustrated above) and cabinets available in several models to accommodate the binders.

Dancer "Stikfile" binders and cabinets are available through your local office equipment and blueprint supply dealer or the manufacturer. Write for full information. No obligation, of course.

DANCER "STIKFILE" COMPANY
P. O. Box 10221 · HOUSTON 18, TEXAS

▲ For more details circle NED-97 E on enclosed inquiry slip ▲

Allsafe DRYBROW: The One-Piece, Free-Floating, Self-Adjusting, All-Rubber Headband, widely used by sweating workers, is now

This means that you get more for your money. Also, the extra length will completely eliminate perspiration that trickles down the sides of the head. Write today for your FREE and POSTPAID SAMPLE!

AMERICAN ALLSAFE COMPANY, INC.
1247 Niagara St. Dept. N Buffalo 13, New York

▲ For more details circle NED-98 E on enclosed inquiry slip ▲

Four Heavy-duty ½" & ¾"
REVERSIBLE DRILLS
UNCONDITIONAL SERVICE GUARANTEE
through June 30, 1961*

- Up to 83% more torque than previous models
- Exclusive reversing switch interlocks with main switch—cannot operate when main switch is "on"
- Precision ball bearings and gearing for long life
- Split carbon brushes for better commutation
- Exclusive "Keystone" housing construction
- External Morse Taper Sockets or geared chucks

*If any of Stanley's 16 new industrial tools, under normal use, becomes unserviceable during the above period, Stanley will repair the tool free of charge.

*Standard guarantee applies after June 30, 1961.

STANLEY ® Stanley Electric Tools DIVISION OF THE STANLEY WORKS 5805 MYRTLE ST. • NEW BRITAIN, CONN.

▲ For more details circle NED-99 E on enclosed inquiry slip ▲

Two Heavy-duty 5" & 6"
PORTABLE GRINDERS
UNCONDITIONAL SERVICE GUARANTEE
through June 30, 1961*

- 15% faster and "human engineered" to provide precise balance, better control
- Up to 35% lighter for more effortless heavy-duty operation
- Precision ball-bearing spindle shaft assures accurate grinding, prevents wheel wobble
- Steel wheel guards—resinoid-bonded grinding wheels
- "Soft-square" spindle handle gives maximum control and stability. Prevents tipping and rolling

*If any of Stanley's 16 new industrial tools, under normal use, becomes unserviceable during the above period, Stanley will repair the tool free of charge.

*Standard guarantee applies after June 30, 1961.

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▲ For more details circle NED-100 E on enclosed inquiry slip ▲

Two Heavy-duty ½" & ¾"
CLOCKWISE ROTATION DRILLS
UNCONDITIONAL SERVICE GUARANTEE
through June 30, 1961*

- Up to 66% more torque than previous models
- Precision ball bearings and gearing for long life
- Twist-proof removable spade handle. Removable auxiliary pipe handle
- Exclusive "Keystone" housing construction
- Extra-long switch handle for complete control

*If any of Stanley's 16 new industrial tools, under normal use, becomes unserviceable during the above period, Stanley will repair the tool free of charge.

*Standard guarantee applies after June 30, 1961.

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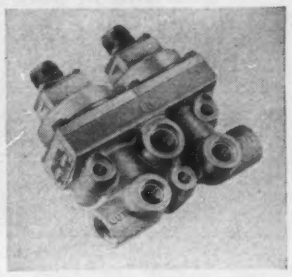
▲ For more details circle NED-101 E on enclosed inquiry slip ▲

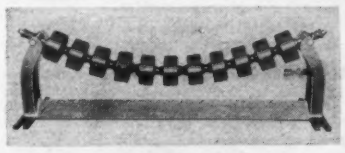
PNEUMATIC VALVE
provides 300 psi to two nozzles



Model MV-162 three-way, three-position dual coil pneumatic valve provides 300 psi air to two reaction nozzles for pitch, yaw, and roll control of nose cones in outer space. The electrically actuated unit, which has industrial application possibilities, features zero leakage and 0.025-sec operating action. With forged aluminum body, valve weighs only 1.7 lb, has two continuous duty 24-v dc coils, and provides two pressure sensing ports for indicating valve position. • **Marotta Valve Corp.**, Box 330, Boonton, N. J.

▲ For more details circle NED-102 E on enclosed inquiry slip ▲

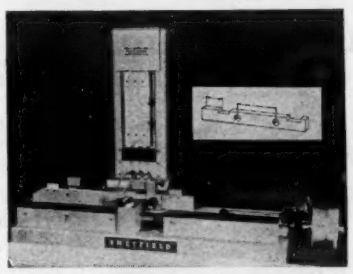
CONVEYOR BELT CARRIER
for belts under all load conditions



This Flexiroll carrier provides true catenary suspension for the conveyor belt under all load conditions. High tensile spring steel "dead shaft" is mounted on a mild steel trunnion, and it has a shock absorbing compression spring. Initial set of shaft enables the most rigid belts to make contact with all roller faces. Belt is supported in a natural arc. Rollers resist corrosive, abrasive, greasy, oily, and combustible materials. Steel welded frame and roller assembly are self-cleaning. Carriers for 18, 20, 24, 30, and 36-in. belt widths are offered. • **Stephens-Adamson Mfg. Co.**, 12 Ridgeway Ave., Aurora, Ill.

▲ For more details circle NED-103 E on enclosed inquiry slip ▲

HOLE LOCATING GAGE
measures to 0.000010-in. accuracy



Slots as small as 0.050 in. and smaller holes in precision parts can be measured as to location, center distance, and depth within ±0.000010 in. on this Precisionaire gage. Instrument accommodates rectangular and round parts of various thicknesses and widths up to 12 in. Gage consists of a precision gage table and a three-column Precisionaire instrument. A Sheffield 1-in. range micrometer located at end of the table is used with end standards to set the part print dimension in the gage against which actual slot and hole location is checked. • **Sheffield Corp.**, Box 893, Dayton 1, Ohio.

▲ For more details circle NED-104 E on enclosed inquiry slip ▲

Three Heavy-duty 7" & 9"
DISC SANDERS
UNCONDITIONAL SERVICE GUARANTEE
through June 30, 1961*

- Up to 28% Lighter—41% Faster!
- Perfectly balanced for maximum control, minimum fatigue during continuous operation
- Precision ball bearings—precision gearing for long operating life
- Spindle lock for quick, easy changing of sanding discs—depressed center wheels—torque brushes
- Auxiliary handle fits right or left side

*If any of Stanley's 16 new industrial tools, under normal use, becomes unserviceable during the above period, Stanley will repair the tool free of charge.

*Standard guarantee applies after June 30, 1961.

STANLEY ® Stanley Electric Tools DIVISION OF THE STANLEY WORKS 5805 MYRTLE ST. • NEW BRITAIN, CONN.

▲ For more details circle NED-105 E on enclosed inquiry slip ▲

Exclusive ¾" Heavy-duty
2-SPEED DRILL
UNCONDITIONAL SERVICE GUARANTEE
through June 30, 1961*

- Most powerful ¾" 2-speed drill on the market
- Exclusive speed selector switch, for high-speed drilling or low-speed, high-torque drilling
- Precision overriding clutches automatically deliver speed selected thru dual gearing—no shifting, no jamming

*If any of Stanley's 16 new industrial tools, under normal use, becomes unserviceable during the above period, Stanley will repair the tool free of charge.

*Standard guarantee applies after June 30, 1961.

STANLEY ® Stanley Electric Tools DIVISION OF THE STANLEY WORKS 5805 MYRTLE ST. • NEW BRITAIN, CONN.

▲ For more details circle NED-106 E on enclosed inquiry slip ▲

7" Heavy-duty
POLISHER
UNCONDITIONAL SERVICE GUARANTEE
through June 30, 1961*

- Lightweight and perfectly balanced for maximum control, minimum fatigue during continuous operation
- Heavy-duty construction throughout with precision ball bearings, precision gearing for long operating life
- Spindle lock for quick, easy pad changing—reversible auxiliary handle for right or left hand operation
- Spring backrest permits tool to be put down while spindle is turning—protects pad

*If any of Stanley's 16 new industrial tools, under normal use, becomes unserviceable during the above period, Stanley will repair the tool free of charge.

*Standard guarantee applies after June 30, 1961.

STANLEY ® Stanley Electric Tools DIVISION OF THE STANLEY WORKS 5805 MYRTLE ST. • NEW BRITAIN, CONN.

▲ For more details circle NED-107 E on enclosed inquiry slip ▲

Extra-heavy-duty ¾", 1", 1¼"
REVERSIBLE DRILLS
UNCONDITIONAL SERVICE GUARANTEE
through June 30, 1961*

- Up to 23% more torque than previous models
- Exclusive reversing switch interlocks with main switch—cannot operate when main switch is "on"
- Precision ball bearings and gearing for long life
- Split carbon brushes for better commutation
- Exclusive "Keystone" housing construction
- Internal Morse Taper Socket

*If any of Stanley's 16 new industrial tools, under normal use, becomes unserviceable during the above period, Stanley will repair the tool free of charge.

*Standard guarantee applies after June 30, 1961.

STANLEY ® Stanley Electric Tools DIVISION OF THE STANLEY WORKS 5805 MYRTLE ST. • NEW BRITAIN, CONN.

▲ For more details circle NED-108 E on enclosed inquiry slip ▲

Non-Burst

SUPER-MASTER

BW STEAM HOSE

- PRACTICALLY BURST-PROOF
- STATIC WIRE
- STEEL WIRE BRAID REINFORCED
- BUTYL COVER
- FOR PRESSURES TO 200 LB—(388° F)

WRITE FOR BULLETIN M630

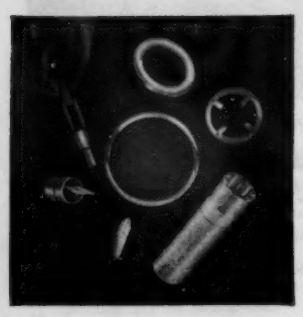
Unusual strength and flexibility . . . maximum safety. Preferred by safety engineers for flash-fire protection, clean-up in refineries, steel mills, foundries . . . dock-to-ship steam supply lines. Made with Neoprene cover for refinery service. Master brand for 150 lb. pressure. Special Type for Pile drivers. Other engineered variations for special applications (higher pressures, temperatures, etc.) on request.

RM1036

RAYBESTOS-MANHATTAN, INC.
MANHATTAN RUBBER DIVISION, PASSAIC, NEW JERSEY
ENGINEERED RUBBER PRODUCTS . . MORE USE PER DOLLAR

For more details circle NED-109 E on enclosed inquiry slip

ENGINEERED PLASTICS



New development in Teflon* FEP parts by Garlock. With the commercial availability of melt-processible Teflon FEP, Garlock can fabricate mechanical and electrical components never before possible. Teflon FEP opens new avenues of design possibilities . . . parts of the most intricate shapes . . . wall sections of minimum thinness of .020"-.030" . . . pieces with the closest of tolerances. For more information on stock shapes and intricate parts of Teflon FEP, contact one of Garlock's 26 sales offices and warehouses throughout the U. S. and Canada, or write for Plastic Catalog, Garlock Inc., Palmyra, New York.

GARLOCK

Canadian Division: Garlock of Canada Ltd.

Plastics Division: United States Gasket Company

Order from the Garlock 2,000 . . . two thousand different styles of Packings, Gaskets, Seals, Molded and Extruded Rubber, Plastic Products

*Du Pont Trademark

For more details circle NED-110 E on enclosed inquiry slip

INSTANT KEYWAYS

for a penny apiece

With Minute Man Keyway Broach Kits you can cut keyways in one minute for as little as one cent. For keyways from 1/16" to 1" in any bore from 1/4" to 3".

Save Time with Standard Stock SQUARE BROACHES

1/8" to 3/4" holes

SEND FOR CATALOG AND PRICE LIST

The duMont Corp., Greenfield, Mass.

MAIL FREE BROACH CATALOG AND PRICE LIST D describing Square Broaches, Hexagon Broaches, Production Type Keyway Broaches and Keyway Broach Kits to

Name.....

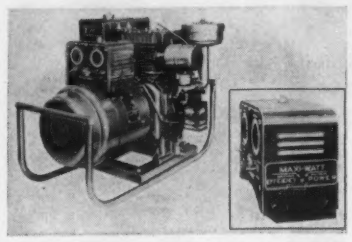
Company.....

Address.....

duMont

For more details circle NED-111 E on enclosed inquiry slip

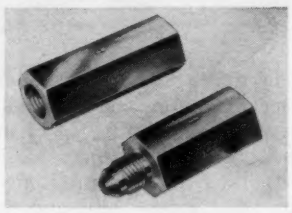
ENGINE GENERATOR
suited for heavy induction loads



Rated 4000 w, Winco 4B23S2D-F Series engine generator will start and power a 3-hp motor under full load. It will also safely carry a 4000-w load of lights on a single 115 or 230-v circuit. Maxi-Watt feature makes maximum power available for heavy inductive loads. Automatic Conserv-er idling control offers savings in fuel cost, and Full Power feature makes full generator capacity available from a single outlet or circuit at 115 or 230 v, or a combination of the two. Electric, manual, and remote starting models have either a carrying cradle or two-wheel dolly for portability. • **Wincharger Corp.**, E. Seventh & Division Streets, Sioux City 2, Iowa.

For more details circle NED-112 E on enclosed inquiry slip

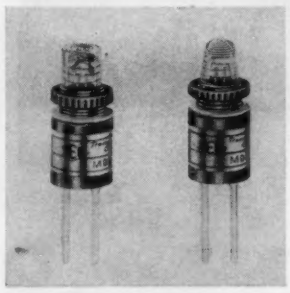
CHECK VALVE
leakproof unit for 5000-psi use



Four styles of Series 400 check valve are made in stainless steel, brass, aluminum, and steel. An O-ring seal provides a leakproof seating action at high or low pressure. Suited for oil, air, water, gasoline, and other service up to 5000 psi, the valve has a −65 to 275° F temperature range. Standard cracking pressure is 1 psi. Available styles have any desired combination of male and female pipe connections. Pipe sizes range from 1/8 to 1 in. and tube sizes from 1/4 to 1 in. • **Quality Control Corp.**, 7315 Wilson Ave., Chicago 31, Ill.

For more details circle NED-113 E on enclosed inquiry slip

LAMP INDICATORS
feature wire wrap terminals

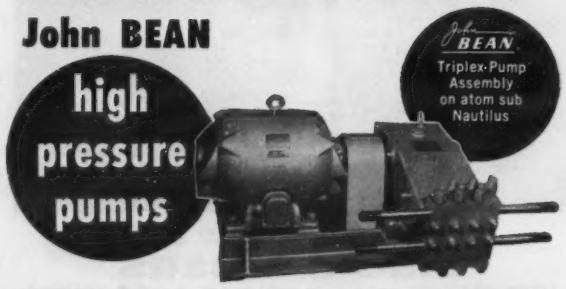


All Tec-Lite neon and incandescent indicators with either permanent or replaceable lamps, standard or transistor driven, are now available with wire wrap terminals. These terminals afford time and cost savings inherent in wire wrap techniques. They are offered at no increase in price over standard solder or taper pin terminals. • **Transistor Electronics Corp.**, 3357 Republic Ave., Minneapolis 26, Minn.

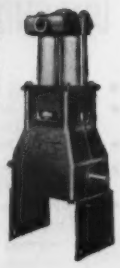
For more details circle NED-114 E on enclosed inquiry slip

for PRESSURES to 12,000 lbs.
TEMPERATURES to 500° F.

John BEAN



Rugged, compact John Bean Triplex Pumps are the answer for high pressure pumping applications, among them coolant pumping in atomic reactors. Pressures range from 1000 to 12,000 psi, fluid temperatures to 500° F. Important design features include:



- Lifetime Sapphite plungers
- "Roto-splash" drive end lubrication
- Distortion-free cast iron housings.
- Free-acting ball-type and spring loaded poppett valves, replaceable valve seats

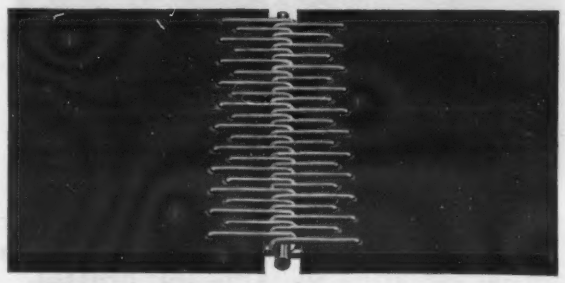
also: John Bean vertical duplex pumps — pressures to 1000 psi, temperatures to 200° F.

Send information request form — today!

John BEAN
DIVISION OF FOOD MACHINERY & CHEMICAL CORP.
INDUSTRIAL SALES DEPARTMENT
LANSING MICHIGAN • SAN JOSE, CALIFORNIA

For more details circle NED-115 E on enclosed inquiry slip

THE FASTEST WAY TO MAKE ENDS MEET



Clipper HOOKS and LACERS

Slash costly down time for belt, apron or tape lacing by using Clipper belt lacing equipment! Produce secure, durable, flexible joints in minutes without injuring belting. A job performed quickly, efficiently, with top results.

WRITE TODAY FOR DETAILS

Clipper BELT LACER COMPANY

976 Front Ave., N. W., Grand Rapids, Michigan
Ask your Industrial Distributor for Clipper Products

For more details circle NED-116 E on enclosed inquiry slip

Sta-Warm ELECTRICALLY HEATED TEFLON LINED HOSE

Temperature Controlled to 400° F.

DESIGNED FOR CONVEYING OF PLASTICS, HOT OILS, WAXES, PARAFFIN, ASPHALTS, POTTING AND SIMILAR COMPOUNDS WITHOUT HEAT LOSS

Sta-Warm engineers and builds a complete line of flexible, electrically heated hoses for use with heated melting tanks. Rubber and all-metallic braided also available.

WANT A CATALOG? WRITE TODAY.

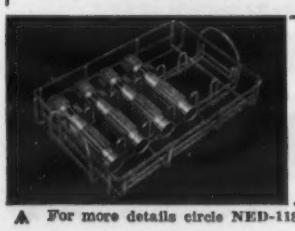
Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO
Subsidiary of ABRASIVE & METAL PRODUCTS CO.

For more details circle NED-117 E on enclosed inquiry slip

PUT PARTS HANDLING ON A LOW COST BASIS

EEZY STAK® BASKETS

You can process parts for less money than it's costing you now by using Eezy-Stak parts handling baskets! Eezy-Staks have the exclusive patented "Inter-Lok" handles for convenient, compact stacking and storage. Parts handled safely . . . less risk of damage . . . rejects reduced. *Two types—compartmented baskets for segregated parts handling, open mesh type for bulk handling.* May be zinc-plated, plastic or neoprene-coated.



WRITE TODAY FOR BULLETIN B-57

Wire and Iron Products Inc.
1724 Sixteenth Street
Detroit 16, Michigan

For more details circle NED-118 E on enclosed inquiry slip

AMERICAN

Pressed Steel

Semi-Steel

Steelite

Semi and Full Pneumatic

INDUSTRIAL WHEELS

A complete line of Heavy-Duty industrial wheels in 4" to 12" diameters, 1½" to 4" face widths with ball or taper-roller bearings.

LOAD RATINGS TO 1700 LBS. PER WHEEL

as low as $2.75

Immediate delivery from stock by your local AMERICAN Distributor.

MATERIALS HANDLING DIVISION
THE AMERICAN PULLEY COMPANY
4200 Wissahickon Avenue, Philadelphia 29, Pa.

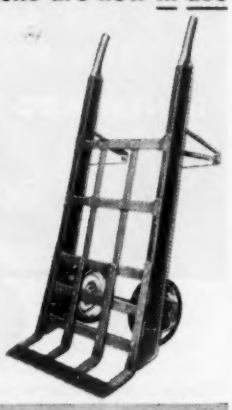
For more details circle NED-119 E on enclosed inquiry slip

AMERICAN

THE ONLY HAND TRUCK FULLY GUARANTEED FOR 5 YEARS!

More AMERICAN Hand Trucks are now in use than any other make.

This 5-year guarantee is possible because American Hand Truck durability has been proven in years of service.



Over 60 models and sizes

as low as $17.75

IMMEDIATE DELIVERY and Sound Planning Help are Available Through Your Local American Distributor

MATERIALS HANDLING DIVISION
THE AMERICAN PULLEY COMPANY
4200 Wissahickon Avenue, Philadelphia 29, Pa.

For more details circle NED-120 E on enclosed inquiry slip

AMERICAN

Load-Lift

SKID and PALLET TRUCKS

Separate pulling and load-raising handles assure maximum ease, safety, and maneuverability.

It's easy rolling to lower costs

as low as $315.00

See your local AMERICAN Distributor for prompt delivery and expert planning help in all phases of materials handling.

MATERIALS HANDLING DIVISION
THE AMERICAN PULLEY COMPANY
4200 Wissahickon Avenue, Philadelphia 29, Pa.

For more details circle NED-121 E on enclosed inquiry slip

POROUS METAL FILTERS
filter medium sealed in end cap

Dissimilar and lighter metals, as well as the same material as the porous metal, can be used in these porous metal filter elements as a result of the pressure-lock manufacturing process. Filter element components are locked so securely that the filter medium is embedded in the parent metal of the end cap to form a leakproof seal. The filter element is suited for 5 micron or more filtration and an operating pressure of 15 psi. Monel unit for 36 cfm of air per sq ft has a pressure drop of 0.2 psi and operating temperature of 400° F. Inconel unit for 5 cfm has a 1-psi pressure drop and operating temperature of 800° F. Both are 36 in. long by 2¾ in. OD and have 1-in. pipe connections. • **Purolator Products, Inc.**, Dept. PUR-140, Rahway, N. J.

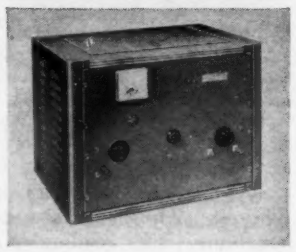
For more details circle NED-122 E on enclosed inquiry slip

HEAVY DUTY TOTE BOXES
in sizes up to 24 x 36 x 12 in.

Sizes up to 24 x 36 x 12 in. are available in line of heavy duty tote boxes and parts trays formed from high impact, rubber-based Styrene. Reinforcing top lip and side and bottom ribs are incorporated when desired. Many colors are available to code-classify stored parts. Trays nest when not in use. • **Premier Plastics, Inc.**, 6812 W. Lake St., Minneapolis 26, Minn.

For more details circle NED-123 E on enclosed inquiry slip

ULTRASONIC CLEANER
consists of generator and choice of 10-qt or 5-gal capacity tanks

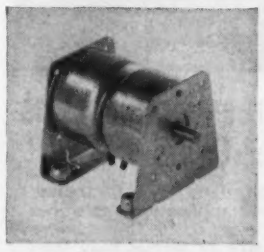


Tuning control to accommodate various types and depths of solutions, as well as various sizes of tanks, is incorporated in the Model G-40-12I ultrasonic cleaning generator. It operates on 110-120-v ac and has an average power output of 285 w and peak output of 1130 w. It can be equipped with 5-min to 8-hr timers. An activity meter indicates when the generator is properly tuned to the transducer in the tank.

Pulse operation is obtained by connection to a self-rectifying circuit which reduces the duty cycle of the tubes by more than 50 per cent. Bursts or pulses of power provide a vigorous cleaning action. Inside measurements of the 10-qt REC-12-352 stainless steel tank are 11¼ x 9 x 6 in. It is energized by barium titanate ceramics with a 40-kc frequency, affixed to the tanks by epoxy resins. Five-gallon REC-14-640 transducer tank has 14 x 10 x 9½-in. inside dimensions and is equipped with a drain plug. • **C. & E. Marshall Co.**, Ultrasonic Div., 1445 W. Jackson Blvd., Chicago 7, Ill.

For more details circle NED-124 E on enclosed inquiry slip

STEPPING MOTOR
with 8 to 24 steps per revolution

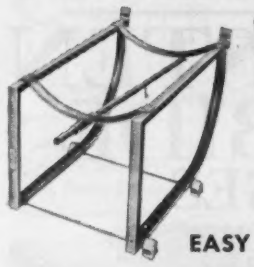


Size 5 Ledex Digimotor is usable as a stepping motor or indexing device. Unidirectional or bidirectional models, with or without detent, are offered with 8, 10, 12, 18, 20, or 24 steps per revolution. Mechanical load can be positioned manually in either direction, and direct coupling of shaft to load permits mounting of a position indicator on the shaft. Extensions are available for one or both shaft ends. Stepping rate is 15 to 25 steps per second, depending upon number of positions, load, and other factors. Models with any duty cycle are offered in a 6 to 350-v dc operating range. Unit withstands high vibration, shock, humidity, and altitude. • **Ledex, Inc.**, 123 Webster St., Dayton 2, Ohio.

For more details circle NED-125 E on enclosed inquiry slip

AMERICAN

BARREL and DRUM CRADLES



guaranteed 5 years

- Pressed Steel
- Light Weight
- Strong enough to support heaviest drums with safety

as low as $15.50

EASY 1-MAN HANDLING

MATERIALS HANDLING DIVISION
THE AMERICAN PULLEY COMPANY
4200 Wissahickon Avenue, Philadelphia 29, Pa.

For more details circle NED-126 E on enclosed inquiry slip

AMERICAN

Safeway

PORTABLE ELEVATING TRUCKS

raises 1500 lbs. up to 10'10" high

A Full Range of 112 Models—Manual, Battery, AC or Air Powered. Optional Load-Jockey takes "push and pull" out of moving loads.

as low as $190.00

Call your local AMERICAN Distributor for prompt delivery and sound recommendations.

MATERIALS HANDLING DIVISION
THE AMERICAN PULLEY COMPANY
4200 Wissahickon Avenue, Philadelphia 29, Pa.

For more details circle NED-127 E on enclosed inquiry slip

AMERICAN

PRESSED STEEL PLATFORM TRUCKS

guaranteed 5 years

Tough, Rugged and Right for any use . . . Indestructible, smooth, steel platforms. Over 60 models and sizes . . . 18" x 32" to 36" x 72" . . . tilt and non-tilt . . . in stock.

as low as $30.50

MATERIALS HANDLING DIVISION
THE AMERICAN PULLEY COMPANY
4200 Wissahickon Avenue, Philadelphia 29, Pa.

For more details circle NED-128 E on enclosed inquiry slip

ANNOUNCING IMMEDIATE DELIVERY

TUNGSTEN CARBIDE GAGES

The finest quality gages on the market!

Immediate delivery in size range .060 to .750
LARGER SIZES—DELIVERY SLIGHTLY LATER.

Finest Double-end go & no go reversible pin gages — made of the highest quality Tungsten Carbide.

Accuracy guaranteed to XX tolerance.

Mirror finished, precision lapped.

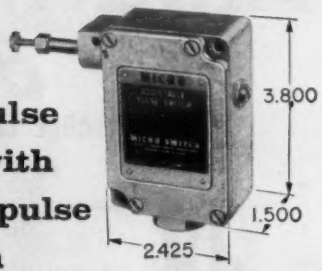
FOR ADDITIONAL INFORMATION AND PRICES, WRITE TO:

DUNDICK TOOL WORKS, INC. 3410 West 31st St. Chicago 23, Illinois

▲ For more details circle NED-129 E on enclosed inquiry slip ▲

MICRO SWITCH Precision Switches

NEW Single-Pulse Switch with adjustable pulse length



Perfect new control for applications in which momentary opening and/or closing of a circuit is necessary, such as on pneumatic valves where permanent-duty solenoids are not used. Entire pulse operation—actuation and release—is accomplished by depressing the operating plunger. Pulse length adjusts by simply turning screw on side of switch housing. Easy to wire; sealed against oil, dust and water. Single-pole double-throw contact arrangement, 10 amps.—125, 250 or 480 vac. Write for Data Sheet 173.

MICRO SWITCH . . . FREEPORT, ILLINOIS
A division of Honeywell
In Canada: Honeywell Controls Limited, Toronto 17, Ontario

Honeywell MICRO SWITCH Precision Switches

▲ For more details circle NED-130 E on enclosed inquiry slip ▲

NEW Model 1-A SEVER-ALL CUTS AT 3 to 6 SECONDS PER SQ.IN.—ECONOMICALLY

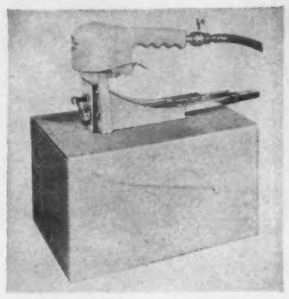
- New abrasive cutting machine—less than $500
- Wheel oscillation provides capacity up to 2" square solids, 3½" O. D. pipe and tubing, 3" angle iron, 4" channels
- Clean cuts on large or small sections
- Cuts cold rolled, stainless, and alloyed steel; cast iron; non-ferrous metals
- Little or no set-up time required
- Just two wheels for all SEVER-ALL cutting jobs
- Available from distributors

Write FOR BULLETIN DH-106

SEVER-ALL ABRASIVE CUTTING **MACHINES** ACCO
Allison-Campbell Division
American Chain & Cable Company, Inc.
930 Connecticut Avenue, Bridgeport 2, Conn.

▲ For more details circle NED-131 E on enclosed inquiry slip ▲

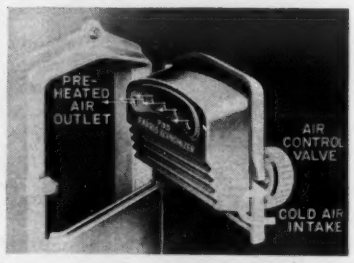
BOX STAPLING MACHINE
portable unit is air operated



Filled cartons are closed at a rate of up to 200 per hour with this 6½-lb Air Boxer, an air - operated portable stapling machine. Its 100-staple magazine has a full-floating, quickly removable channel that minimizes jamming. Heavy, wide crown staples exceed minimum specifications in Rule No. 41. Quickly set controls regulate both staple penetration and tightness of clinch to assure damage-free closing. • **International Staple & Machine Co.**, Box 270, Herrin, Ill.

▲ For more details circle NED-132 E on enclosed inquiry slip ▲

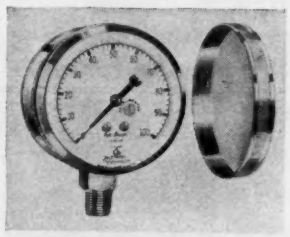
FUEL SAVER
also reduces furnace, boiler smoke



By injecting up to 700° preheated secondary air over the furnace or boiler fire, the Fuel Economizer creates a hotter fire which results in more complete combustion of fuel and a minimum of smoke. Soot and other waste products of unburned fuel are also minimized. Low cost unit mounts inside any furnace or boiler fire door. It is used with high or low pressure boilers firing oil, coal, or coke. • **Farris Combustion Controls Corp.**, 400 Commercial Ave., Palisades Park, N. J.

▲ For more details circle NED-133 E on enclosed inquiry slip ▲

PRESSURE TEST GAGE
pressure ranges up to 0-1000 psi



Three-inch dial size Type 28 test gages for inspectors of boilers, air brakes, and similar pressure systems feature a heavy brass case with a knurled screwed ring for access to a recalibrator. Gages are offered in 11 pressure ranges from 0-15 through 0-1000 psi and seven compound ranges from 30 in. by 15 psi through 30 in. by 300 psi. They are accurate within ±½ per cent of maximum dial reading. Polished brass, nickel, or chrome plated finishes are available, as is a protective cover. • **Marsh Instrument Co.**, 3501 Howard St., Skokie, Ill.

▲ For more details circle NED-134 E on enclosed inquiry slip ▲

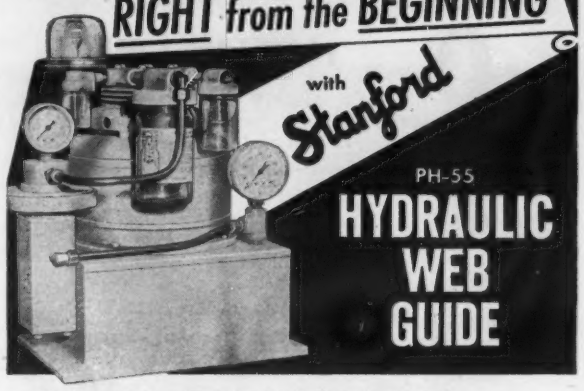
for Filtering and Screen Applications Often Lower Costs

In filtering and screening, Cleveland Wire Cloth has engineered many custom-built applications to meet specialized requirements and lower costs. Chances are a new alloy, unusual mesh size or weave may lead the way to new efficiencies and economies. Cleveland stands ready to furnish samples and make recommendations, based on 40 years experience in weaving accurate "working openings" in wire cloth and fabricating wire cloth products. Check your requirements—send your specification today—ask for free Strainer Bulletin #7.

THE CLEVELAND WIRE CLOTH & MFG. CO.
3573 EAST 78TH STREET CLEVELAND 5, OHIO

▲ For more details circle NED-135 E on enclosed inquiry slip ▲

Control the Web RIGHT from the BEGINNING



Ideal for All Web Processes:
- Printing
- Laminating
- Coating
- Slitting
- Converting

Exclusive Stanford engineering and construction features give you new POWER to handle any size rolls . . . new VERSATILITY for every web process, every material . . . new CONVENIENCE to overcome web guiding problems. Unique P-H "Automatic Pilot" provides instant, accurate correction of web path without "hunting" or "chattering"—cuts costs by eliminating waste and speeding production.

Symbol of Superiority in Converting Equipment

Write today for illustrated brochure

Stanford ENGINEERING COMPANY
SALEM, ILLINOIS • PHONE: SALEM 553
Canadian Rep.: Gordon Keets, 133 Flora Dr., Scarborough, Ont.
Manufacturers of Slitters, Web Guides and Rewinding and Constant Tension Equipment

▲ For more details circle NED-136 E on enclosed inquiry slip ▲

New ARO Air Motor Produces **SUPER POWER** in NEW ARO "2200 Series" TOOLS

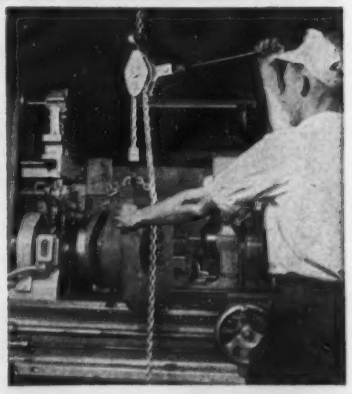
Here's *super performance*—more brute power per pound! More speed to slash costs in drilling, screwdriving, sanding, grinding, nutsetting. Greater safety, too—no shock or spark hazard. Precision-built, easily adaptable to your specific application. Ask your Aro Distributor for free demonstration.

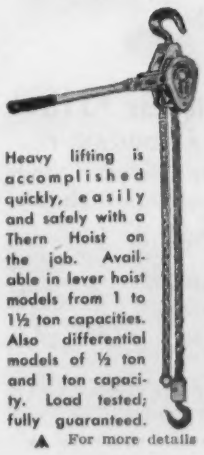
ARO AIR TOOLS
Also Air Hoists . . . Automation Tools

THE ARO EQUIPMENT CORPORATION
Bryan, Ohio
Aro of California, 3141 S. Grand Ave., Los Angeles 7, Calif., Aro Equipment of Canada Ltd., Rexdale (Toronto), Ontario. Offices in All Principal Cities

▲ For more details circle NED-137 E on enclosed inquiry slip ▲

Stay in CONTROL of the LOAD with **Thern HOISTS**





Heavy lifting is accomplished quickly, easily and safely with a Thern Hoist on the job. Available in lever hoist models from 1 to 1½ ton capacities. Also differential models of ½ ton and 1 ton capacity. Load tested; fully guaranteed.

Thern WINCHES Spur gear and worm gear manual or power winches for loads up to 5000 lbs. compact, trouble-free design. Many applications.

Write today for FREE Catalog and prices on full line of hoists, winches, cranes, lift trucks.

THERN MACHINE COMPANY
3800 W. 4th St. • Winona, Minn.

▲ For more details circle NED-138 E on enclosed inquiry slip ▲

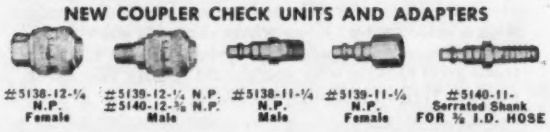
NEW! SCHRADER INDUSTRY INTERCHANGEABLE HI-FLO AIRLINE COUPLER

SAFE! Won't open accidentally, even when dragged, or snarled on machinery. Heavily knurled coupler connects or disconnects in single upstream push or pull, with one hand, even if gloved or greasy.

FEATURES! Fastest airflow . . . non-corrosive . . . case hardened steel all through . . . meets and exceeds mil specs . . . engineered for easy replacement of parts in field.

IMPORTANT! Interchangeable with others of similar types. Variety of end fitting styles available. Your distributor has them now.

NEW COUPLER CHECK UNITS AND ADAPTERS



#5138-12-¼ N.P. Female | #5139-12-¼ N.P. #5140-12-⅜ N.P. Male | #5138-11-¼ N.P. Male | #5139-11-¼ N.P. Female | #5140-11- Serrated Shank FOR ⅜ I.D. HOSE

Schrader a division of SCOVILL

A. SCHRADER'S SON
Division of Scovill Manufacturing Co., Inc.
459 Vanderbilt Ave., Brooklyn 38, N. Y.
QUALITY AIR CONTROL PRODUCTS

▲ For more details circle NED-139 E on enclosed inquiry slip ▲

This little lug →

saves time

on-the-job

BAL TOTE BOXES

Don't Jam When Nested

That metal lug on the tapered sides does it—won't permit Tote Boxes to jam no matter how hard they're slammed together. It speeds materials handling!

You get other benefits, too, from Bal's construction: lightweight, hard vulcanized Aerofibre; strong riveting throughout; and rust-protected reinforcements where they're needed. Results? . . . long-time satisfaction.

Write for Complete Catalog
Fibre Trucks—Mill Boxes—Conveyor Boxes—Waste Hampers

SINCE 1898 **william BAL corporation** 947-49 Newark Ave. Elizabeth, N. J.

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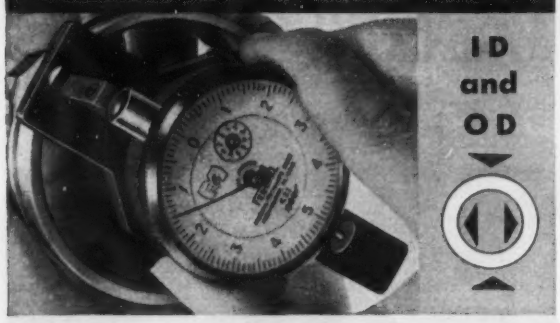
NEW POCKET-SIZE PRECISION COMPARATOR



- Readily converts to I.D. or O.D.
- Checks shallow diameters, width of slots, spacing between shoulders, etc . . . at bench, or if desired, at machine, while work is still in chuck.
- Wide adjustability — capacity 1⅛" to 4½" for inside diameters: from ¾" to 4⅛" for outside diameters. Gaging depth ⅛". Range of sensitive contact is .100".
- Has Miracle Movement Dial Indicator, .0001" grads.

For complete information and prices (Model 36P-1) write

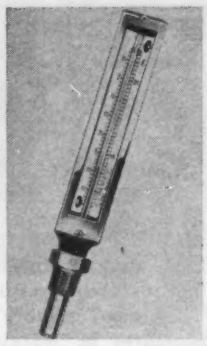
FEDERAL PRODUCTS CORPORATION
6175 Eddy Street, Providence 1, R. I.

Ask **FEDERAL** *First*

FOR RECOMMENDATIONS IN MODERN GAGES . . .
Dial Indicating, Air, Electric, or Electronic—for Inspecting, Measuring, Sorting, or Automation Gaging

▲ For more details circle NED-141 E on enclosed inquiry slip ▲

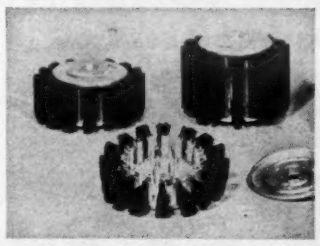
INDUSTRIAL THERMOMETER for water lines and heater coils



Low-cost, precision thermometers are designed for use on refrigeration systems, hot water tanks and generators, preheating coils, and industrial circulating and storage systems. Units are offered in −40 to 110° F and 30 to 240° F ranges with ½-in. NPT brass separable sockets for easy installation. A 2-in. brass extension neck socket adapts them to insulated lines. Straight, regular angle, or oblique form cases are offered. • **H. O. Trerice Co.**, 1420 W. Lafayette Blvd., Detroit 16, Mich.

▲ For more details circle NED-142 E on enclosed inquiry slip ▲

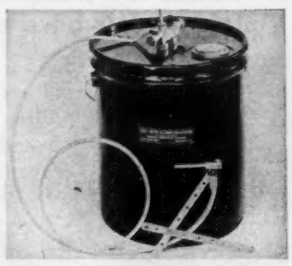
BRUSH POLISHING HEADS 1, 2, 4, and 6-in. face widths



Line of Vonnegut 16 brush polishing heads supplements heavier line of No. 32 brush heads. Made of steel, they are available with standard 1½-in. trim and special 3½-in. trim brushes. Abrasive face widths offered are 1, 2, 4, and 6 in. Cadmium and hard chrome plated heads can be specified. Brushes are interchangeable in both 16 and 32 brush heads. • **Grinding & Polishing Machinery Corp.**, 2530 Winthrop Ave., Indianapolis 5, Ind.

▲ For more details circle NED-143 E on enclosed inquiry slip ▲

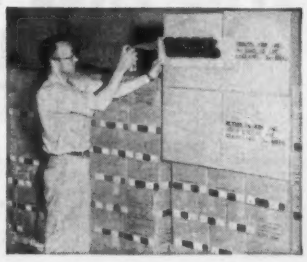
OIL MIST LUBRICATOR for various types of cutting tools



Refrigeration effect which takes place when a high velocity air stream evaporates a liquid enables the Model B-650 Spray-rite system to cool and lubricate cutting tools. This method of spray cooling permits high cutting speeds and feeds, and extended tool life in turning, milling, grinding, tapping, reaming, sawing, and punch press operations. It is also suitable for oil lubrication of gears, cams, and high temperature chains. Connected to an air line, the system consists of a reservoir assembly placed at any convenient location and a nozzle close to point of use. Any liquid that flows up to a viscosity of 1000 Ssu at 100° F is atomized in a round spray pattern. Lubricators with 2 and 5-gal tanks accommodate one to six spray valves and nozzles. • **Oil-Rite Corp.**, 2364 Waldo Blvd., Manitowoc, Wis.

▲ For more details circle NED-144 E on enclosed inquiry slip ▲

STENCIL INK—sprayed from can makes any marking fast, easy, clean

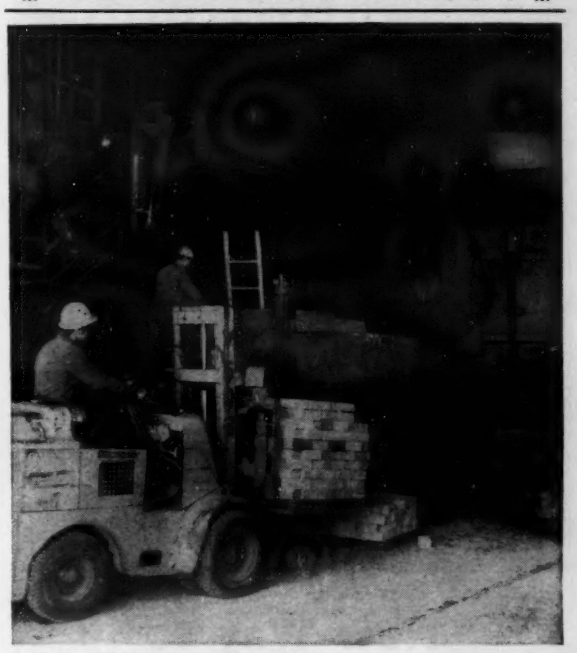


Container sprays a dense, compact cone of specially formulated ink at the touch of a finger. Ideally used for stenciling corrugated cartons, drums, fabric and wood shipping containers; stenciling assembly and lubricating instructions; and any other stenciling on metal, concrete, painted, plastered or other surfaces. Also used for color coding; identification marking, etc. 9 colors include black, red, blue, green, yellow, orange, air force blue, white and aluminum. Ink is very opaque. Dries in seconds. No smear, smudge or curtaining. Not to be confused with slow drying paints, lacquers or enamels. Always ready to use. No cans to open. No ball pots or fountain brushes to load. No drying out. No waste. No mess. Saves time. Easy to store. A trial will convince you. Fully descriptive bulletin sent on request. Write Reynolds Ink, Inc., 2065 East 65th St., Cleveland 3, Ohio. (*Advt.*)

▲ For more details circle NED-145 E on enclosed inquiry slip ▲

THE HAMILTON TOOL COMPANY
901 HANOVER STREET · HAMILTON · OHIO

▲ For more details circle NED-146 E on enclosed inquiry slip ▲



B.F.Goodrich industrial tires cut downtime, save money at steel and wire company

Delivering wire coils—hauling fire brick—towing wire cars—unloading fence posts—loading freight cars—all around Keystone Steel and Wire Co. materials are moved faster and easier on B.F.Goodrich industrial tires.

Downtime and tire costs are cut to a minimum, because each piece of equipment rolls on the B.F.Goodrich tires specifically designed for the job. The B.F.Goodrich Tire and Wheel Analysis Man studied the company's setup. Then he advised which B.F.Goodrich industrial tires would give longest service at lowest cost—advice that was unbiased because B.F.Goodrich makes a complete line of industrial tires and can recommend the right tire for any job. As a result of this TW Analysis, Keystone Steel chose B.F.Goodrich tires for *all* its vehicles.

This case history is typical of the savings BFG Tire and Wheel Analysis Men offer. Why not take advantage of this *free* B.F.Goodrich service. Mail the coupon below.

A special B.F.Goodrich consulting service is available to manufacturers of materials handling equipment.

B.F.Goodrich **Specify B.F.Goodrich tires when ordering new equipment**

Smileage!

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The B.F.Goodrich Company
Department TW-817,
Akron 18, Ohio

Please send me additional information on your free Tire and Wheel Analysis Plan.

NAME_____
COMPANY_____
STREET_____
CITY_____ ZONE____ STATE____

INDUSTRIAL TIRES BY B.F.Goodrich

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REPAIR FOR YOUR B&D TOOLS

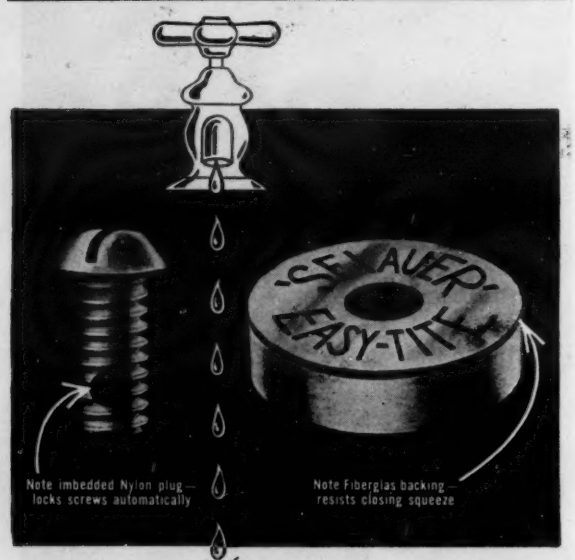
Check the Yellow Pages under "Tools-Electric" for the location of the nearest Black & Decker factory service branch or authorized service station.

Free tool inspection when requested • Genuine B&D parts used • Factory-trained technicians • Standard B&D Guarantee at completion of recommended repairs • Fast service, reasonable cost, always.

Or write for address of nearest of more than 50 branches and service stations to: THE BLACK & DECKER MFG. Co., Dept. 1905-S. Towson 4, Md.

Black & Decker QUALITY TOOL SERVICE

▲ For more details circle NED-148 E on enclosed inquiry slip ▲



New Way to Stop Faucet Leaks!

★ **9-in-10 washers are fastened with TOO LONG or SHORT SCREWS thus loosen and destroy themselves. Leaks quickly follow!**

34 YEARS OF RESEARCH REVEALS NEW SOLUTION

★ **New, patented 'Sexauer' SELF-LOCK screws have imbedded expanding NYLON PLUG. They lock at required depth AUTOMATICALLY, hold washers firmly! Made of MONEL, they are rustproof, non-corroding. Heads can't twist off. Screw slots can't distort.**

★ **NEW, improved 'SEXAUER' EASY-TITE faucet washers are made of super-tough, pliable du Pont compound (not rubber or fibre). Reinforced with a vulcanized layer of Fiberglas, they resist distortion and splitting from shut-off grind and squeeze.**

★ **Faucet leaks repaired with 'Sexauer' EASY-TITE faucet washers and SELF-LOCK screws outlast ordinary repairs "6-to-1"!**

HIDDEN COSTS OF FAUCET LEAKS!

Hackensack, N. J. Water Co. and American Gas Association figures prove stopping just ONE PIN-HOLE SIZE (1/32") LEAK saves you 8,000 gal. water quarterly. A HOT WATER FAUCET LEAK repair saves you over $7.58 QUARTERLY in fuel and water bills. Fewer leaks also produce important savings on MATERIALS, LABOR and COSTLY FIXTURE REPLACEMENTS!

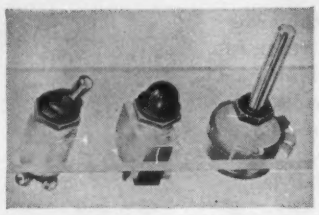
A 'Sexauer' Technician will make available our NEW Catalog, Edition "J", listing our entire line of over 3,000 TRIPLE-WEAR plumbing repair parts and tools. He will survey your fixtures, determine the repair parts needed and establish an efficient stock arrangement and control to prevent costly overstocking or shortages. You get this service without obligation. *Act now!*

J. A. Sexauer Mfg. Co., Inc., Dept. AU-50
2503-05 Third Ave., New York 51, N. Y.
Please send me a copy of your NEW Catalog "J"
Name _____ Title
Organization _____
Bus. Address _____
City _____ Zone _____ State _____

SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

▲ For more details circle NED-149 E on enclosed inquiry slip ▲

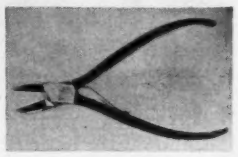
HIGH PRESSURE SEALS for toggles, pushbuttons, shafts



Toggle switches, pushbuttons, and rotating shafts which pass through panels and housings are sealed against dirt, dust, fumes, and moisture by line of high pressure Hexseals. Consisting of silicone rubber chemically and mechanically bonded to a lock nut, seals afford vibration-resistant joining and maintain pressure within the enclosure or housing. They meet military requirements and withstand temperatures in −160 to 500° F range. Toggle-switch boots in three sizes are offered for bushing or flush mounting and can cover the bat or leave it partially exposed. Pushbutton boots in four models have an adapter for larger sizes, whereas shaft seals are supplied for up to ½-in. OD shafts with seven different thread sizes. • **Metal Process Co.,** 1801 First Ave., New York 28, N. Y.

▲ For more details circle NED-150 E on enclosed inquiry slip ▲

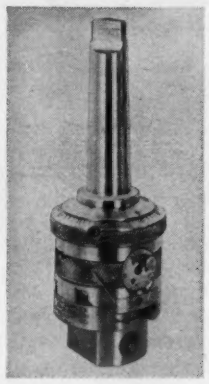
PLASTIC-GATE CUTTER for injection molding work



With a blade almost 1 in. long, the Model 6½ plastic gate cutter has sharply ground knife edges and a flat back for close cutting. Tool is 6½ in. long and has leaf spring action. Of West German manufacture, it sells for $3.75. • **Injection Molders Supply Co.,** 3514 Lee Rd., Cleveland 20, Ohio.

▲ For more details circle NED-151 E on enclosed inquiry slip ▲

BORING & FACING HEADS six models bore up to 20-in. holes



Boring, facing, grooving, turning, and undercutting are all performed by line of improved Duplex boring and facing tool heads offered in six sizes with micrometer adjustability for boring holes from 0-6 to 0-20 in. Heads feature a knurled feed ring which, when held stationary while tool is rotating, causes the slide to move radially 0.0025 in. per revolution across the work surface for facing cuts. A dial on the side adjusts slide to position rapidly. One revolution of dial moves slide 0.025 in. Improvements include a body and shank design that precludes all chance of looseness or breakage and a 1-in. shorter body length for rigidity. • **Chandler Tool Co.,** 514 Ohio Ave., Muncie, Ind.

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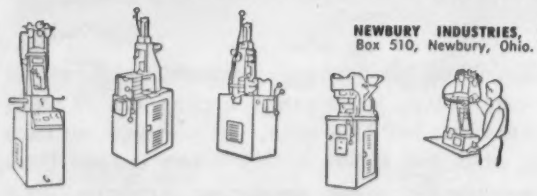
Project Engineers:

THIS FREE BOOKLET IS A "MUST"...

If your problems involve injection molding of plastic parts up to 1½ oz.

Shows you how MINI-JECTORS® cut major costs. Produce: *QUICKER*—thousands of molded items often made before big press tooling is off design board; *BETTER* — award-winning quality and precision even with molds involving inserts or loose cores; *FOR LESS*—develop and produce molded items at fraction of big press tooling costs. Shows latest methods of developing and producing (up to 1½ oz.) items in *all* thermoplastics, including Nylon. MINI-JECTOR machines from under $1,000 complete. Mold blanks as low as $29.50. *One user saved over $4,000 mold costs alone on one item.*



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Box 510, Newbury, Ohio.

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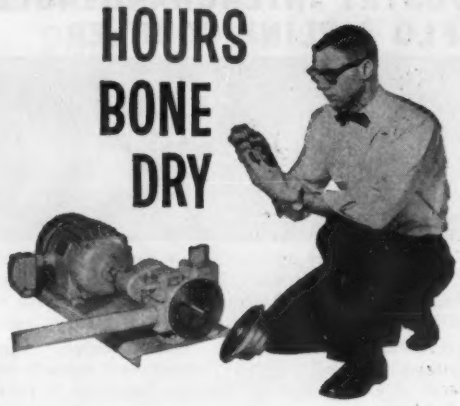
Please send me your new free catalog
Name .....
Company .....
Address .....
City ..... State .....
For convenience clip coupon to your letterhead and mail

▲ For more details circle NED-153 E on enclosed inquiry slip ▲

2000 HOURS BONE DRY



When asked how well our pumps would wear, we had this to tell. In one of the toughest pumping tests ever devised, a 2-inch Blackmer vane-type pump was driven at top speed for 2000 hours, running absolutely bone dry. Vane wear was detectable only with a micrometer! Even when vanes do show wear, they are inexpensively replaced. Aren't these good reasons why you should specify Blackmer pumps? Write for Bulletin One.

"liquid materials handling"® equipment
BLACKMER / *rotary pumps*
BLACKMER PUMP COMPANY, GRAND RAPIDS 9, MICHIGAN
Find your Blackmer Man under "Pumps" in the Yellow Pages

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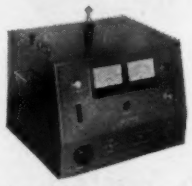
TEST INSTRUMENTS for ELECTRICAL EQUIPMENT

Laboratory.. Production.. Maintenance



Voltage Breakdown
Insulation Leakage
0.02 mma to 10 ma
Test Potentials to 30 kv

Bench HYPOT® Test Sets, a-c and d-c models, have outputs to 30 kv. Separate 4½" meters for test voltage and leakage current. Wide selection of models.
Model 424 Bench HYPOT® provides 0-5000 v d-c. For testing cables, condensers, coils, transformers, motors, and assemblies. Measures leakage current from 0.1 microampere to 100 microamperes over four scale ranges. Rapid testing of capacitors with output of 5 milliamperes under short circuit. Operates from 110-120 v 50/60 c outlet with long-life selenium high voltage supply.
Net complete.....$497.50

- **Insulation Materials Tester**
  Dielectric strength determined to laboratory precision. Interchangeable test fixtures for varnishes, porcelain, tape, acetate sheet, films, tubing and cloth. Write for Bulletin, Model 4501 HYPOT® Materials Tester.
- **Insulating Oils Tester**
  New portable design, only 42 lbs., for testing insulating oils at point of application as well as in the laboratory. Test potential variable from 0 to 35 kv, with 2 kva rating. Write for bulletin Model 4505 HYPOT® Oil Tester.
- **Measure Resistance to FIVE MILLION MEGOHMS**
  VIBROTEST® megohmmeters provide direct reading measurements to FIVE million megohms and higher with electronic power supply that eliminates tedious cranking. Write for bulletin "VIBROTEST".
- **Test Electrical Grounds**
  VIBROGROUND® measures resistance to ground of electronic, telephone, and power equipment. Direct reading. Operates from self-contained battery. Write for Bulletin "VIBROGROUND"®

Complete Catalog Write today!

ASSOCIATED RESEARCH, Incorporated
3765 W. Belmont Avenue • Chicago 18, Illinois 10—35.18

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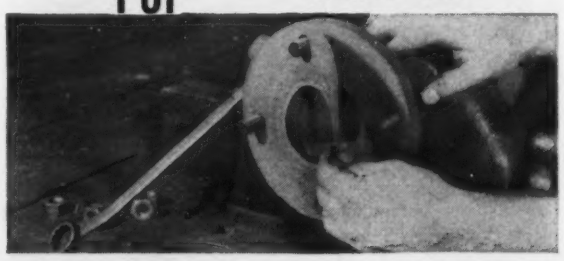
AFTER HIGH PSI

... easy release without messy coating
... no delamination



SPAULDING 44 *GASKET MATERIAL*

- Uniform compressibility and recovery
- Strong, clean, resistant to fuels and oils
- Gives the engineer new freedom to cope with critical characteristics of design

Write for free Spaulding 44 Data Folder

SPAULDING FIBRE COMPANY, INC.
310 Wheeler Street, Tonawanda, New York

APPLICATIONS FOR INDUSTRY

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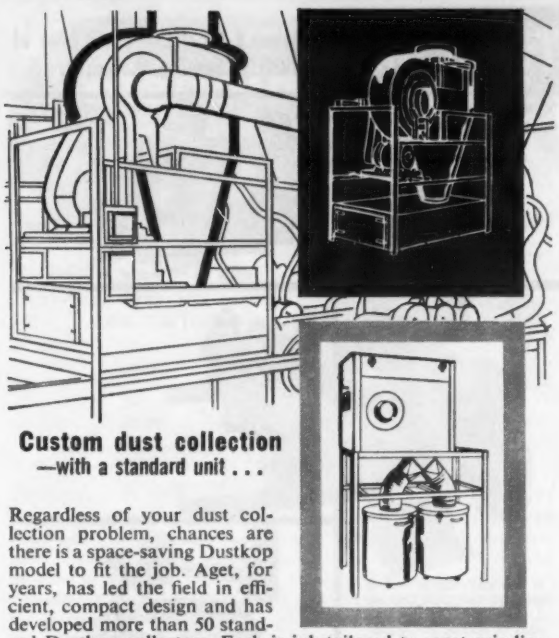

Custom dust collection
—with a standard unit . . .

Regardless of your dust collection problem, chances are there is a space-saving Dustkop model to fit the job. Aget, for years, has led the field in efficient, compact design and has developed more than 50 standard Dustkop collectors. Each is job-tailored to most grinding, buffing or finishing operations—as well as many other types of service. Write for illustrated brochure that helps select your tailored Dustkop unit.

Also a complete line of mist collectors

AGET MANUFACTURING COMPANY 1396 EAST CHURCH ST., ADRIAN, MICHIGAN **DUSTKOP** Stops Dust

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Start with
Chemlon® *The Best in Teflon*

Getting the full advantages of this material depends on the processing ability of your supplier to meet *all* of these qualifications:

1. **Fabricating experience, facilities and rigid quality control to supply a uniform, non-porous Teflon, free from flaws, thus eliminating rejects or malfunction of your end product.**
2. **Dimensional accuracy—carefully sized to industry specifications. Any waste of Teflon adds to its cost, and corrective finishing in your own shop unnecessarily adds production time and expense.**

Under the name, Chemlon, "John Crane" gives you full satisfaction on each of these points, plus engineering assistance.

Ask about your specific needs. Request Bulletins T-110 and T-122. Crane Packing Co., 6411 Oakton Street, Morton Grove, Illinois, *(Chicago Suburb).*
In Canada: Crane Packing Co., Ltd., Hamilton, Ont.

**DuPont Trademark*

CRANE PACKING COMPANY
OFFICES IN ALL PRINCIPAL CITIES

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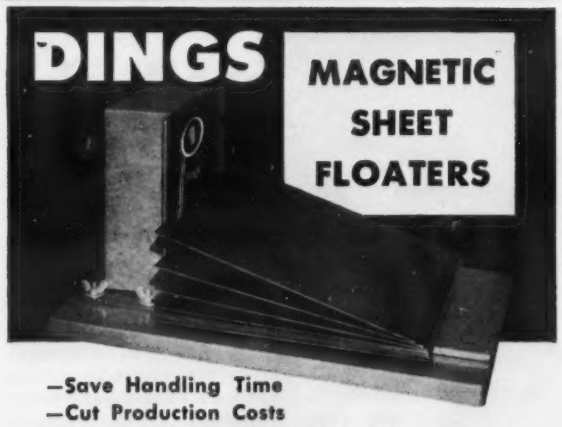

—Save Handling Time
—Cut Production Costs

Here's how to get faster, easier, safer handling of stacked steel sheets on hand feeding operations. Automatically separates top sheets in pile from those below...eliminates fumbling, protects dies, prevents scratching of finished surfaces. Helpers formerly needed to pry sheets apart now freed for other work.

DINGS MAGNETIC SHEET FLOATERS come completely enclosed in stainless steel to prevent damage to Alnico blocks or loss of magnetic efficiency through attraction of stray iron.

For more information write:

Dings

DINGS MAGNETIC SEPARATOR CO.
4758 W. Electric Ave.
Milwaukee 46, Wis.

SF159

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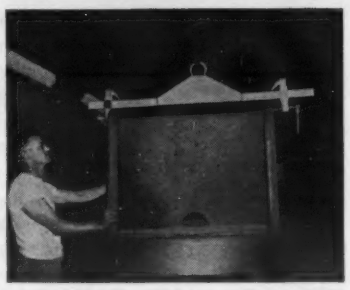
MULTIUSE LIFTING TOOLS
turn over, pull, and position work



Metal sheets and plates, blocks, slabs, weldments, castings, machine assemblies, pipe, tubing, and structural shapes, as well as round, square, and hexagonal bars are handled by three types of Gonser clamp-on lifting tools. They lift, transfer, pull, turn over, rotate, and position work weighing up to 2 tons per tool and with 0 to 60-in. spans. Flexible frame, toggle, and floating circular wedge actions combine to give a tenacious grip. • **James Campbell Smith, Inc.**, 4057 Erie St., Willoughby, Ohio.

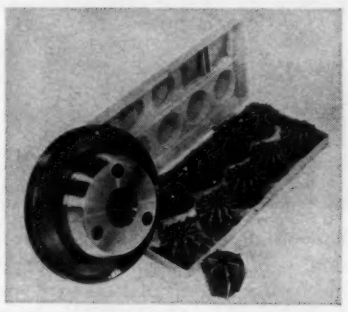
▲ For more details circle NED-160 E on enclosed inquiry slip ▲

BULK NAILS & SCREWS
packed in draw-string opened box

Tacks, drive screws, and nail products are now packaged in a 50-lb zip-top carton that is easily opened by pulling the draw string. Box strength is not weakened by opening it, and lid can be put back on. Cartons can be stacked even after they are opened. • **Hillwood Mfg. Co.**, 21700 St. Clair Ave., Cleveland 17, Ohio.

▲ For more details circle NED-161 E on enclosed inquiry slip ▲

COLLET CHUCK
comes with ten split-steel collets



Handwheel - operated, nose-type closure Model 50 collet chuck for Atlas-Clausing, Delta, Logan, Sheldon, South Bend, and similar lathes is offered with a set of ten J-500 Series collets packaged in plastic box. Chuck affords fast collet changing, no more than 0.001-in. runout at the nose, a range of 0.100 in. and bar capacity from 0.100 to 1.063 in. It can also be used to chuck tubing and fragile materials, and to hold round pieces on drill presses, milling machine tables, and magnetic chucks. Collets have chucking range of 0.100 in. each. Chuck and ten collets retail for $135. • **Jacobs Mfg. Co.**, West Hartford 10, Conn.

▲ For more details circle NED-162 E on enclosed inquiry slip ▲

Here's the FAST, EASY WAY to LIFT heavy metal pieces...use the

- **HANGS ON ANY HOIST**
- **HANDLES ANY SHAPE**
- **FASTER, STRONGER THAN ANY MUSCLE**

The Dings MAGNA-HOIST is ideal for those back-breaking "odd" jobs around the shop. Dings Magna-Hoist is quicker than a hook sling, more flexible and more *available* than a lift truck . . . better, faster and stronger than any muscle.

It's low in cost, sturdily-built and will work for years with little maintenance . . . measures only 8" x 14" x 3".

Picture Magna-Hoist stacking stock and finished parts; loading and unloading trucks; lifting material on and off machine beds; *then write DINGS for full details.*

Dings

DINGS MAGNETIC SEPARATOR CO.
4758 W. Electric Ave. • Milwaukee 46, Wisc.

MH159

▲ For more details circle NED-163 E on enclosed inquiry slip ▲

For Complete Information Phone BAker 5-8201 or write:

PHILLIPS PROCESS CO. INC.
192 MILL STREET
ROCHESTER, NEW YORK

▲ For more details circle NED-164 E on enclosed inquiry slip ▲

Interchangeable

QUICK DISCONNECTS
AIR GASES LIQUIDS

connect or disconnect the fastest and easiest way

Just plug in . . . the patented PUSHOMATIC locking mechanism automatically forms a positive, leak-proof connection . . . no turning or twisting necessary. Connect to most sockets and plugs regardless of make . . . because the **Series D is interchangeable** . . . interchangeability saves valuable set-up time and reduces costly coupling inventories.

Integral shut-off valve provides fast connection on production set-ups—one hand operation permits easy connect or disconnecting.

360° swivel action reduces operator fatigue and eliminates hose kinking.

The Series D interchangeable coupling can be used on air, gases, or liquid lines which makes it ideal for most all industrial uses. Maximum flow with minimum pressure drop. The performance and construction Military Specifications MIL-C-4109-A.

Available in 4 types of end connections and sizes ⅛" through ¾" NPT. Maximum pressures to 7,500 PSI connected.

Write for Bulletin 1500—compare high flow characteristics.

PERFECTING SERVICE CO.
334 Atando Ave. Charlotte, N. C.
Baltimore—Buffalo—Camden, N. J.—Chicago—Cleveland—Los Angeles—New York—Providence—Hamilton, Ont.—Montreal—Toronto

▲ For more details circle NED-165 E on enclosed inquiry slip ▲

The answer to your need for LOW-COST CONTINUOUS SEPARATION of TRAMP IRON from fast-moving, deep burdens

CERAMOX V! That's Dings' new, powerful ceramic magnet material which protects machinery and product purity against tramp iron damage. Dings' new ceramic radial-pole Perma Pulleys provide high magnetic strength across entire belt width and greatest removal efficiency at high operating speeds. Other money-saving features . . .

- **No operating cost. No wiring or power required**
- **No maintenance. Unit is automatic**
- **Quickly and easily installed**
- **High resistance to demagnetization**
- **High and prolonged surface strength**
- **Stainless steel surface for all-weather service**

It will pay you to get complete details. Write for information today.

Dings

DINGS MAGNETIC SEPARATOR COMPANY
4758 W. Electric Ave., Milwaukee 46, Wis.

CPU159

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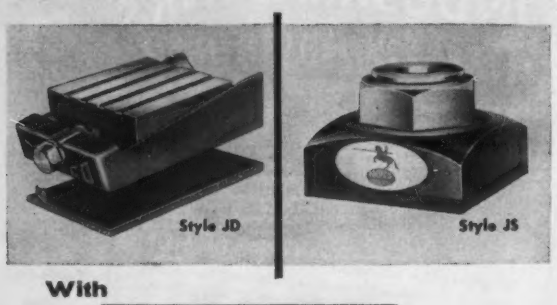
DEPENDABLE MACHINE SUPPORT!



With

EMPCO

LEVELING JACKS

For better machine performance set your machines level and keep them level! That's the key to increased production with less maintenance! EMPCO Leveling Jacks provide a solid, adjustable support for machine tools, large surface plates, tool room, and production equipment of all types. Easily installed and located, EMPCO Jacks keep your equipment level and stable—keep maintenance at a minimum.

VI-SORB Mounting Pads, optional with EMPCO Jacks, control vibration from within the machine itself and reduce transmitted vibrations. Available in six styles and 25 models there's a EMPCO Jack and VI-SORB Mounting Pad for your every machine leveling requirement!

WRITE TODAY FOR ILLUSTRATED BULLETIN AND PRICES!

THE ENTERPRISE MACHINE PARTS CORPORATION
2727 JEROME AVENUE • DETROIT 12, MICHIGAN

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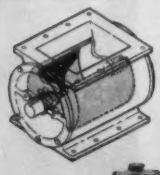
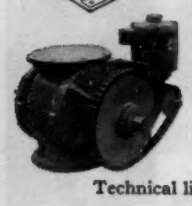
Q. Why specify Fuller Rotary Valves and Feeders?

A: Fuller rotary valves and feeders are products of more than 30 years of designing and manufacturing equipment for handling dry bulk materials. They are built to save you money in the long run!



Fuller rotary valves feature close clearances and a double seal, which prevent leakage in the closed position. Knife edges and "V" slots at the ends of the rotor avoid sticking due to packed material. Built for either manual or remote motor control.



Fuller feeders are ruggedly built to precision tolerances for long, efficient service handling Portland cement, cement raw materials, pulverized coal, hydrated lime, etc. Available in wide range of sizes, with round or rectangular openings. Standard construction, cast iron; special metals if desired.

Technical literature is available upon request.

Fuller ...pioneers in harnessing AIR

1181
F-19

FULLER COMPANY
154 Bridge St., Catasauqua, Pa.
SUBSIDIARY OF GENERAL AMERICAN TRANSPORTATION CORPORATION
Offices in Principal Cities Throughout the World

▲ For more details circle NED-169 E on enclosed inquiry slip ▲

FREE MARKAL PAINTSTIK!

We will send you without cost or obligation a MARKAL PAINTSTIK. They are available in various types suitable for marking on any kind of material. Hot surfaces up to 2100°F, also welding and heat treating. Cold surfaces down to —50°F, wet, dry, icy, oily, rough, smooth, acid or alkali. *MARKS Are Permanent, Fadeproof, Weatherproof.* Specify surface condition, material, temperature at time of marking.

Cold . . . down to —50°F. Hot . . . up to 2100°F.

USE THIS COUPON OR WRITE ON YOUR LETTERHEAD!

Here's what I want to mark: _____

_____

_____

_____

Marking Temperature _____ Max. Temp. _____ °F.

Name _____

Company _____

Address _____

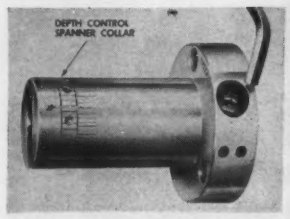
City _____ State _____

My Distributor's Name _____

MARKAL COMPANY
3053 West Carroll Avenue • Chicago 12, Illinois

▲ For more details circle NED-170 E on enclosed inquiry slip ▲

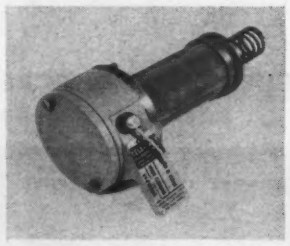
PRECISION BORING QUILLS
hole size infinitely adjustable



Precision boring quills, operating on a principle that utilizes ball-bearings in an eccentric mounting, allows infinite adjustment of hole size with a hex key. User can adjust within less than 0.0001 in. to compensate for tool wear. Quills have no backlash and slippage and are available to fit all standard boring spindles. Prices start at $275. • Briney Mfg. Co., 1165 Seba Rd., Pontiac, Mich.

▲ For more details circle NED-171 E on enclosed inquiry slip ▲

DRILLHEAD FILTER
built-in unit has dirt indicator



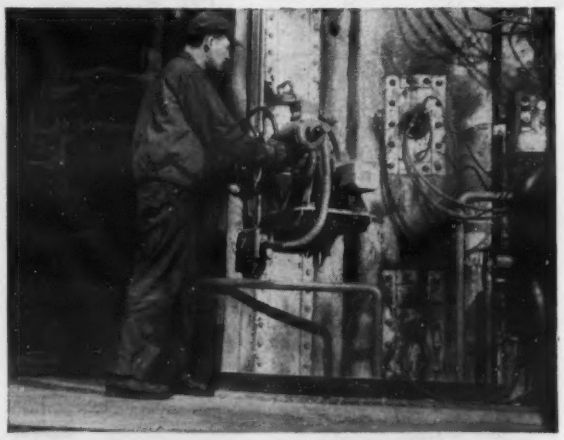
Designed to be built into and become a part of a drillhead or quill, this cartridge type filter incorporates a Tell-Tale dirt indicator. It can be equipped with an electric switch to provide remote signalling of the degree of clogging. Exposed portion of the illustrated unit has a 3⅝-in. diameter, projects 2½ in., and contains the dirt indicator operating mechanism and automatic bypass valve. At 2-psi pressure drop, flows from 6 gpm of 150 Ssu oil through a 40-micron screen to 25 gpm through a 238-micron screen require a cavity 7 in. deep. Greater flows are possible with a deeper cavity and longer filter element. • Rosaen Co., 1776 E. Nine Mile Rd., Hazel Park, Mich.

▲ For more details circle NED-172 E on enclosed inquiry slip ▲

MANUALLY-OPERATED RAMP
retractable lip is automatic

This frame-contained, spring counterbalanced dock leveling ramp with 6 x 8-ft platform size sustained roll-over loads up to 20,000 lb. When not in use, the ramp is horizontally locked to dock level and hinged lip section points downward. When operator trips release mechanism, ramp platform rises and lip section thrusts itself forward. Operator then steps on platform to depress it and causes lip to rest on carrier bed. When carrier pulls away, platform rises and lip drops. Ramp is then manually depressed to dock level. • Globe Hoist Co., Industrial Lift Div., E. Mermaid Lane at Queen Street, Philadelphia 18, Pa.

▲ For more details circle NED-173 E on enclosed inquiry slip ▲



Sure footing . . .

A.W. ALGRIP abrasive flooring

Heavy oil occasionally spills on this platform at the Schuylkill Station of the Philadelphia Electric Company, but A. W. ALGRIP helps prevent accidents by providing assured footing.

A. W. ALGRIP is produced by Alan Wood Steel Company by a patented process in which an abrasive is embedded to a controlled depth. It becomes an integral part of a tough steel plate.

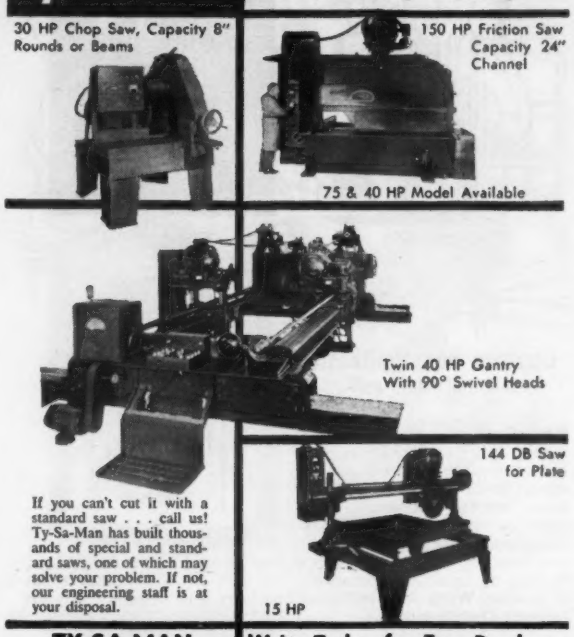
A. W. ALGRIP can be used as independent flooring or as flooring overlay. Approved for Safety by Underwriters' Laboratories. Write for Bulletin AL-S2.

ALAN WOOD STEEL COMPANY
Conshohocken, Pa.

Also manufacturer of A. W. Super Diamond Rolled Steel Floor Plate.

▲ For more details circle NED-174 E on enclosed inquiry slip ▲

Ty-Sa-Man America's Most Complete Line of Industrial Sawing Machinery



If you can't cut it with a standard saw . . . call us! Ty-Sa-Man has built thousands of special and standard saws, one of which may solve your problem. If not, our engineering staff is at your disposal.

TY-SA-MAN
MACHINE COMPANY, Inc.
550 White Avenue
Knoxville 1, Tennessee

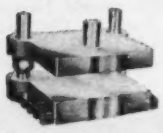
Write Today for Free Brochure
A brochure pictures and describes the functions of many metal saws. If you have a cutting problem, write or call today.

▲ For more details circle NED-175 E on enclosed inquiry slip ▲

Sue Perior and Spouse

THE *Exclusive* SET

Exclusiveness is a distinction . . . the reward for challenge and accomplishment. • Superior engineers are constantly alert to the challenges of the die making industry. And through research and engineering skills they have met the challenges and created die sets with exclusive features that have contributed to the die maker's art. • Superior's exclusive features have brought advances to die making and they have brought die set leadership to Superior. Let Superior's many exclusive features work for you! • Get Superior . . . the exclusive set!



SUPERIOR STEEL PRODUCTS CORP
2754 South 19th Street • Milwaukee, Wisconsin
Cheshire, Connecticut

▲ For more details circle NED-176 E on enclosed inquiry slip ▲

NEW MINIATURE SNAPAC SWITCH

50% smaller — costs 33% less

Cut space requirements 50% and manufacturing costs 33% with CC's rugged new 760 switch. Available in SPDT types with pin plunger, lever action or bushing mount, it gives superior reliability . . . in space no bigger than a wink.

Get full details on CC's entire line of regular and miniature switches. They're all available at local authorized distributors.

Creative controls for industry

CONTROLS COMPANY OF AMERICA
APPLIANCE AND AUTOMOTIVE DIVISION
INDUSTRIAL AND COMMERCIAL SALES
9577 Soreng Avenue, Schiller Park, Ill. • Cooksville, Ontario • Zug, Switzerland

▲ For more details circle NED-177 E on enclosed inquiry slip ▲

TYPE M

Solenoid Valves

"We've actually improved quality and radically lowered prices. Compare!"

TYPICAL USER NET PRICES
F.O.B. FACTORY

SIZE	1 to 5	100 to 499
½"	$15.40	$11.15
¾"	18.50	13.60
1"	24.25	18.50
1½"	48.00	42.40

PRESSURES TO 400 psi

Packless • 2-Way • General Service • Normally Closed

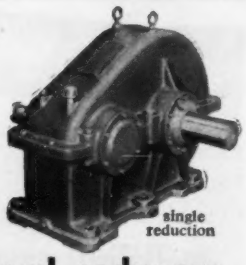
Sizes ⅜" to 3" • Temperatures to 250° • Molded epoxy resin waterproof coils • Unbreakable piston rings • Self-cleaning • Guided valve seats • Simple, rugged construction. Only 2 moving parts • No diaphragms or linkages • Cushioned closing. No damaging hammer • Easy-off "O" ring bonnet construction in sizes ⅜" thru ¾" • High temperature coils and explosion proof housings at slight extra cost. Immediate delivery. Ask for Bulletin 600-M.

J. D. GOULD CO. • 4707 MASSACHUSETTS AVE.
INDIANAPOLIS 18, IND.

GOULD SOLENOID VALVES — VELVETROL

▲ For more details circle NED-178 E on enclosed inquiry slip ▲

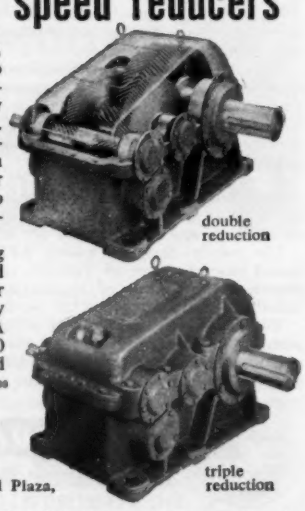
new sizes
new designs
new ruggedness



Parallel shaft speed reducers

Now Link-Belt offers 35% greater selection in sizes to reduce drive costs by matching drive size more closely to horsepower requirements. Herringbone or double helical gears are arranged in new "balanced" design for high horsepower, high ratio reduction in a sturdy, compact housing.

Rigid, ribbed housing keeps parts accurately and permanently aligned under shock loads and temporary overloads. Built to AGMA standards to more than 2800 hp, ratios to 292:1. Send today for Book 2719. 15,300



LINK-BELT
SPEED REDUCERS
LINK-BELT COMPANY: Prudential Plaza, Chicago 1, Illinois

▲ For more details circle NED-179 E on enclosed inquiry slip ▲

MARKING TOOL
for hard, soft metals, ceramics

Reciprocating air motor of this 5¼-oz pen-size Airiter marking tool delivers up to 12,000 blows per minute with 1 cfm air consumption at 90 psi. Tool can be used to mark, letter, or engrave hard and soft steel, nonferrous metals, ceramics, glass, and plastic, and will operate from 40 to 100-psi air supply. Replaceable carbide stylus can be reground several times. Speed of blow and depth of mark are controlled by turning the throttle. Tool can be used with a lettering guide or pantograph and will make a readable mark down to 1/32 in. high. • **Rotor Tool Co.**, 26300 Lakeland Blvd., Cleveland 32, Ohio.

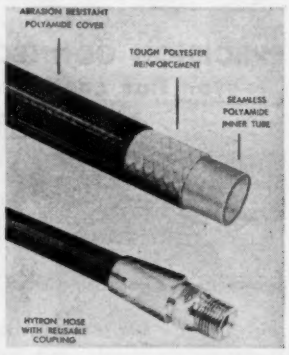
▲ For more details circle NED-181 E on enclosed inquiry slip ▲

POROUS METAL FILTERS
for 7 to 300-micron separation

Porous metal filter elements are supplied in various grades of sintered bronze powder for particle separation from 7 to 300 microns. They filter out solids and contaminants in hydraulic and pneumatic systems and also afford metering, flame arresting, diffusing, and sound deadening application possibilities. • **Arrow Sintered Products Co.**, 1981 S. Kostner Ave., Chicago 23, Ill.

▲ For more details circle NED-182 E on enclosed inquiry slip ▲

HIGH PRESSURE HOSE
withstands 9000 to 12,000 psi

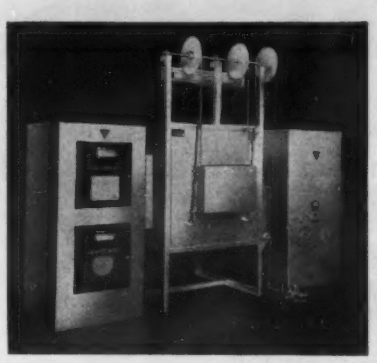


Seamless extruded inner tube of virgin polyamide, a high tensile strength polyester reinforcement, and an extruded polyamide fluted cover comprise Hytron high pressure hose. Minimum burst pressure is 9000 to 12,000 psi, depending upon size. Temperature range is −40 to 225° F. Reusable couplings or factory crimped-on couplings are provided. Flexible hose is unaffected by hydraulic fluids, hot paint, solvents, Freon, fuel and oil, high pressure carbon dioxide, and high pressure pneumatic service. Maximum lengths of 1150, 850, 840, and 650 ft are available in 3/16, ¼, 5/16, and ⅜-in. ID sizes, respectively. • **Imperial Brass Mfg. Co.**, 6300 W. Howard St., Chicago 48, Ill.

▲ For more details circle NED-183 E on enclosed inquiry slip ▲

High Temperature—General Purpose

PERECO *electric* FURNACE

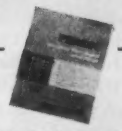


Completely packaged

range of sizes

temperatures up to 2700°F

Write Today



This model FG-430 Pereco Heat Treating Furnace is typical of a series of standard, general purpose, completely packaged units available in a wide range of sizes. Accurately controlled, clean electric heat at its best! Economical too! Gas-tight case. Wedge-fit counterbalanced foot-operated door. Full range of controls in handy reach on separate panels.

Now Available
Pereco Furnaces and Kilns, equipped with Kanthal-Super Elements, for continuous operation of temperatures up to 2950 F. in oxidizing atmosphere. Write for details.

• Standard or special furnaces or kilns from 450° F to 5000° F.

PERENY EQUIPMENT COLUMBUS, OHIO

PERENY EQUIPMENT CO. INC.
Dept. G, 893 Chambers Rd.
Columbus 12, Ohio

▲ For more details circle NED-184 E on enclosed inquiry slip ▲

ALEMITE HYDRASTAT AIRLESS SYSTEM

CUTS PAINT COSTS UP TO 40%

Puts paint only where you want it! There's no waste. You save up to 40% on materials. New Hydrastat Spray System atomizes paint by high pump pressure—without use of heat, without atomizing air. Result—overspray and bounceback are virtually eliminated.

Greater operating efficiency! The Hydrastat System permits faster application and better coverage...often eliminates need for a second coat. Use it indoors or outside—move it anywhere for fast, easy painting of permanent machine installations or large equipment. Cuts exhaust requirements and fire hazards...makes cleanup easier. Reduces air consumption, air equipment needs . . . saves working area. Operates at 24 to 1 ratio. Pumps from one, five, or ten-gallon cans or fifty-four-gallon drums.

Improves uniformity! Assures continuous, even flow of paint at constant pressure. Continuous agitation guarantees color uniformity and eliminates settling out of pigments.

WRITE FOR NEW ILLUSTRATED LITERATURE!

Symbol of SW Excellence — ALEMITE DIVISION STEWART-WARNER CORPORATION
Dept. HH-50, 1850 Diversey Parkway, Chicago 14, Illinois

▲ For more details circle NED-185 E on enclosed inquiry slip ▲

Yale Midget King

link chain hoists are the newest development in the full line of Yale lightweight electrics. The versatile Midget King lets the operator pick up material not directly under the hoist itself because the durable alloy type link chain flexes in any plane. Easy to move and store, the Midget King can be operated for less than two cents a day. Hook or trolley models are available, in capacities of ⅛, ¼, ½, 1 & 2 tons. Hoist-and-load protecting upper and lower limit stops plus two brakes provide positive safety. Hardened alloy steel gears assure lengthy, economical service. Roller chain models of the Midget King are also available. The complete line of Yale hand, air and electric hoists is ready for you—to accomplish any overhead handling task.

Contact your Yale distributor listed under "Hoists" in the Yellow Pages of your phone directory. Or write for brochure #577H to The Yale & Towne Manufacturing Co., Yale Materials Handling Div., Phila. 15, Pa., Dept. MH2.

YALE®
INDUSTRIAL LIFT TRUCKS
TRACTOR SHOVELS • HOISTS
YALE & TOWNE

Yale Materials Handling Division, a division of The Yale & Towne Manufacturing Co. Manufacturing Plants: Philadelphia, Pa., San Leandro, Calif., Forrest City, Ark. Products: Gasoline, Electric, Diesel, LP-Gas Industrial Lift Trucks • Worksavers • Warehousers • Hand Trucks • Industrial Tractor Shovels • Hand, Air, Electric Hoists

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BURNERD MECHANITE Precision Chucks

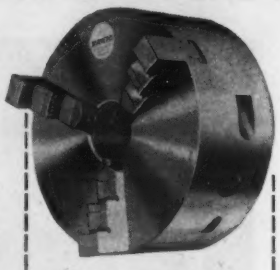
Unsurpassed in quality, precision and value!

When you buy Burnerd, you buy the best—in precision, service life and value.

Every Burnerd chuck is built to uncompromisingly high standards of accuracy. Every Burnerd chuck is *guaranteed* against defects in material and workmanship *for a period of two years.* Every Burnerd chuck is backed by the coast-to-coast sales and service organization of Clausing.

Check the wide variety of types and sizes against your requirements. Then write for a catalog and check prices—you'll be pleasantly surprised. When you invest in a Burnerd you save 20—even 30%! You get *more . . . far more . . .* with Burnerd.

Send for literature today.



GRIPTRU scroll chucks

Concentricity within .0002" TIR!

4" to 12" dia.

3- and 4-jaw universal chucks
4" to 24" dia.

4-jaw independent chucks
6½" to 28" dia.

Direct mounting and backplate mounting chucks

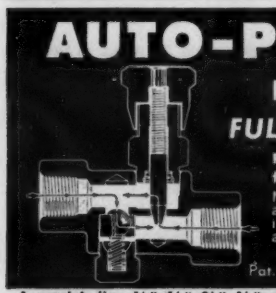
337

BURNERD CHUCKS — CLAUSING DIVISION
ATLAS PRESS COMPANY
5-215 N. PITCHER ST. — KALAMAZOO, MICH

▲ For more details circle **NED-186 E** on enclosed inquiry slip ▲

AUTO-PONENT®

HYDRAULIC FULL FLOW VALVES



Flow Control, Needle, Check, for HYDRAULIC Power

Model KF Flow Control Valve with Dial and Knob adjustment for direct reading and duplicating reference. Now available in Aluminum for 3000 psi.

Pat. #2,841,174

A complete line: ⅛", ¼", ⅜", ½", and ¾" female Dryseal Pipe Sizes in all models and types. Equivalent Aeronautical Tube Sizes on special order.

MINIMUM PRESSURE DROP AND POWER LOSS . . . Oversize ports and passages give maximum flow at minimum pressure drop, insure greater accuracy and response in hydraulic or large volume air cylinder control.

EASY FLOW ADJUSTMENTS under full pressure. Seal located at port to eliminate air or dirt traps. Gland structure equally effective on pressure or vacuum.

SENSITIVE, CHATTERLESS BALL CHECK . . . Patented design insures rapid ball movement to open or close at low differentials.

FORGED BODIES permit higher pressures with wide safety margins. Aluminum—3000 psi; Steel and Stainless Steel—5,000 psi. Pressure ratings based on better than 5 to 1 safety factor. All internal parts are Stainless. Write for illustrated catalog.

Model F Standard Flow Control Valve or Model N Needle Valve

Model KF Knob and Dial Flow Control Valve or Model KN Needle Valve.

Model PF Knob and Dial Flow Control Valve or Model PN Needle Valve for panel mounting.

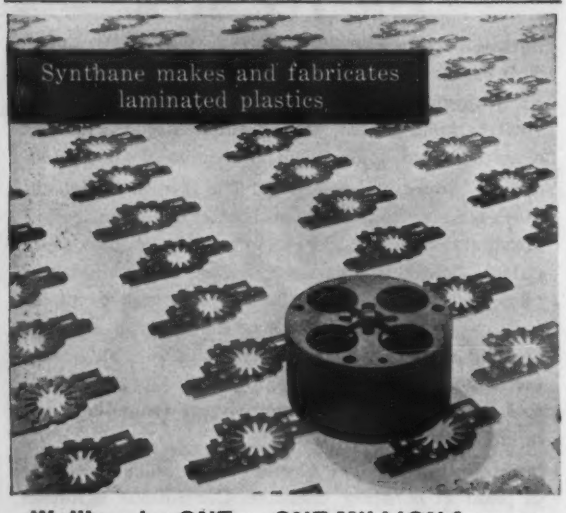
Model C Check Valve for In-Line Mounting.

TYPICAL APPLICATIONS

Controlling Double Acting Cylinder — Controlling Single Acting Cylinder

AUTO PONENTS INC — 2929 GRANT STREET, BELLWOOD (Chicago Suburb) ILLINOIS

▲ For more details circle **NED-187 E** on enclosed inquiry slip ▲



We'll make ONE or ONE MILLION for you

Want top quality laminated plastics parts at the right price? Here's the place to buy them—whether you need 1 or 1,000,000.

We have the stock or can make it. We make our own tools, dies, jigs. You don't have to worry about tolerances, dimensional allowances, clearances on tools, speeds or feeds. Spoilage is our problem. The price is painless because our special tools and skills keep it low. Write or phone for a quotation.

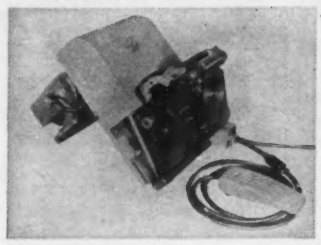
WRITE FOR NEW FABRICATION BOOKLET. It's a must for every buyer of laminated plastics parts.

SYNTHANE CORPORATION
NE RIVER ROAD, OAKS, PENNA.
Sheets • Rods • Tubes • Fabricated Parts
Molded-laminated • Molded-macerated

SYNTHANE

▲ For more details circle **NED-188 E** on enclosed inquiry slip ▲

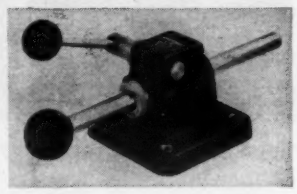
MANIFEST LABEL PRINTER used with various types of equipment



Underwriters' Laboratories manifest label legends are printed directly on insulating panels, electrical components, tags for wire reels, and other flat surface items by the Model 121A machine. The clear imprints resist weather and handling, and are applied at production speeds. A sealed, nonreset recording mechanism, easily interchangeable for multiple class marking, keeps accurate count of the imprints. Printing machine is designed for bench use or for horizontal, vertical, or angular mounting on assembly lines, packaging machines, or conveyors. Its 110-v, 60-cycle ac drive can be actuated manually or by the item being marked at speeds up to 100 per minute. • **Markem Machine Co.,** Keene 41, N. H.

▲ For more details circle **NED-189 E** on enclosed inquiry slip ▲

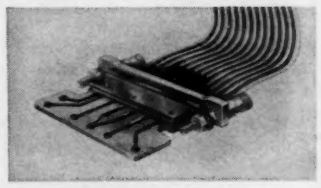
LOCKING JIG holds work without distortion



Jig and fixture design is simplified with the Adjusto-Quick Jig-Lok. Turning of the control automatically adjusts holding pressure from 1 to 1500 psi. Hand pressure locks and holds rigid or non-rigid work in position without distortion. One inch of the end of hardened and ground locking bar is soft for machining to add fixtures. Two models have 4 x 4-in. and 5 x 5-in. bases. • **L-W Chuck Co.,** 51 S. St. Clair St., Toledo 4, Ohio.

▲ For more details circle **NED-190 E** on enclosed inquiry slip ▲

PRECISION CONNECTORS for flat conductor cable



Weight and space savings are afforded by Pos-E-Kon connectors for flat, multiconductor cable. They can be applied to shielded cable, printed circuit boards, and standard round wire. Male portion with polarized locking screws has neoprene grommet and locking ring for strain-relief and moisture seal at any altitude. Contacts consist of individual beryllium copper springs with 200-gram contact pressure. Female outer shell contains either a printed circuit board, or a second length of cable. • **Thomas & Betts Co.,** 36 Butler St., Elizabeth 1, N. J.

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end switch replacement with **unconditionally guaranteed**

Levolier NO. 41 SWITCHES

The only switch that is unconditionally guaranteed against failure in lighting circuits. One piece phenolic case makes wiring easier, insures better insulation, 6 amp. "T" 125 V.—3 amp. 250 V.

Use 6 to 20 amp LEVOLIER switches for canopy, fixture and FHP motor use. Also toggle, push button and momentary contact type switches.

NO. 71 — Need a *thin* 6 amp. switch? The No. 71 is only 15/32" thick, 6 amp. "T" 125 V. 3 amp. 250 V.

Available from your electrical wholesaler

Send for McGILL Catalog No. 84.

engineered electrical products — McGILL® *precision needle roller bearings*

McGILL MFG. CO. INC., Electrical Div., 151 N. Campbell St., Valparaiso, Ind.

▲ For more details circle **NED-192 E** on enclosed inquiry slip ▲

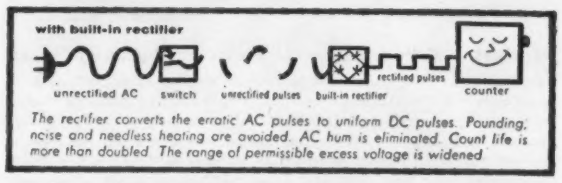
Webster was right! Rectify means make right

that's what built-in rectification does for

PIC-600 electric counters

and CE-800 electric counters

When operating these counters from AC you get the long recognized advantages of DC operation without adding any circuitry or components.



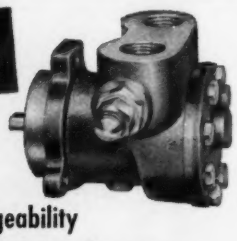
The rectifier converts the erratic AC pulses to uniform DC pulses. Pounding, noise and needless heating are avoided. AC hum is eliminated. Count life is more than doubled. The range of permissible excess voltage is widened.

You can hear the difference. Ask your PIC Distributor or Representative for a demonstration or write.

PIC — *Manufacturers of Counters, Switches, Relays, Actuators and Automatic Valves*
AUTOMATION CONTROLS DIVISION
GENERAL CONTROLS CO.
801 Allen Ave., Glendale 1, Calif.

▲ For more details circle **NED-193 E** on enclosed inquiry slip ▲

NOW



- **Compact design**
- **Built-in relief valves**
- **Complete mounting interchangeability**

on TUTHILL small industrial pumps

Now, a new design—Series LPFV—gives even greater flexibility with Tuthill small industrial pumps . . . the industry standard for dependable operation.

Complete interchangeability allows the use of any of five different sizes in the series on the same mounting arrangement. Capacities range from 20 to 360 gallons per hour at pressures of up to 500 psi. Normally provided for 1800 RPM, 3600 RPM speeds are permissible in most cases. A built-in relief valve is offered as optional equipment.

Compactness, characteristic of all Tuthill pumps, is particularly exemplified in model LPFV with its shorter mounting hub. Also available in close coupled motor-pump combinations for applications where space and weight are at a premium.

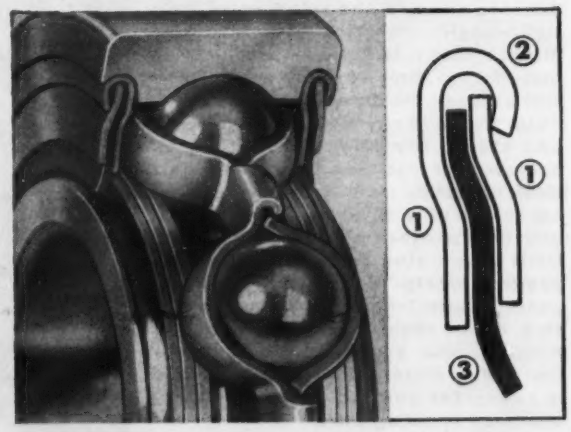
The newly designed model LPFV incorporates performance tested characteristics of Tuthill's internal gear construction . . . proven in thousands of applications in hydraulics, lubricating, transfer, circulating and other services.

Tuthill offers a complete line of over 700 models of internal gear pumps . . . including stripped models for built-in applications, cartridge pumps, reversible models, one for every specialized service. Write today for complete catalog.

TUTHILL PUMP COMPANY
959 East 95th Street, Chicago 19, Illinois

▲ For more details circle **NED-194 E** on enclosed inquiry slip ▲

New Fafnir "Seal in a Steel Sandwich" Stays Put . . . Seals Better!



NEWLY-DESIGNED PLYA-SEALS in this Fafnir precision ball bearing are gripped between two steel supports (1) securely rolled into a groove in the bearing outer ring (2). This new Fafnir "seal in a steel sandwich" stays put, resists push-in, provides positive protection (3) against contaminants and loss of lubricant. Bearings are permanently prelubricated and seals are nonremovable. Maintenance is reduced to a minimum. Contact your Fafnir branch office for full details.

Or write The Fafnir Bearing Company, New Britain, Conn.

FAFNIR BALL BEARINGS

▲ For more details circle **NED-195 E** on enclosed inquiry slip ▲

For BIG SAVINGS on motorized in-line drives

SPECIFY NOT GEARHEAD MOTOR

BOSTON Gear OPTIMOUNT® HELICAL GEARED RATIOMOTORS

When a job calls for "gearhead motor" costs-wise designers specify OPTIMOUNT.

You save design time — avoid extra cost of "specials" — reduce parts cost — speed production — simplify servicing. For complete information . . .

Horizontal base-mounted OPTIMOUNT RATIOMOTOR one of 456 mounting arrangements of standard units — ready to install

CALL YOUR BOSTON Gear DISTRIBUTOR

FROM STOCK!

▲ For more details circle NED-196 E on enclosed inquiry slip ▲

Your choice of 4 shaft positions when mounted in either base

BOSTON Gear OPTIMOUNT® HELICAL GEARED RATIOMOTORS

FROM STOCK!

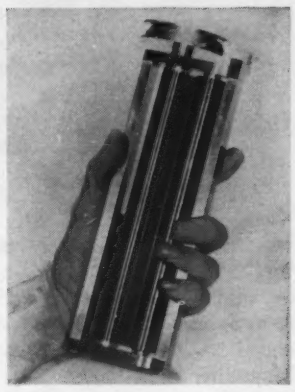
You specify the shaft position when you order — and get the arrangement required READY-TO-INSTALL

The OPTIMOUNT gear unit can be fastened in the horizontal base to provide the most efficient output shaft position. When mounted in the square shaped vertical base, the entire assembly can be turned and bolted in position desired. For complete information . . .

CALL YOUR BOSTON Gear DISTRIBUTOR

▲ For more details circle NED-197 E on enclosed inquiry slip ▲

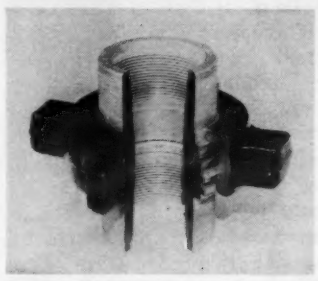
SPRING MOTOR develops constant torque



Wide band of spring material gives the Neg'ator a long, tubular shape, making it suitable for internal mounting in drums, instrument chart drives, long slender members, tubes, and masts. Model shown has a 0.0033-in. thick by 7⅞-in. wide stainless steel spring. Constant force is exerted as extension of the output cable winds the Neg'ator from its relaxed position on the smaller ½-in. drum onto the larger ¾-in. output drum. Torque of 6 lb-in. is developed through 50 revolutions of the output pulley. Motor is custom designed to application. • **Hunter Spring Co.**, 1 Spring Ave., Lansdale, Pa.

▲ For more details circle NED-199 E on enclosed inquiry slip ▲

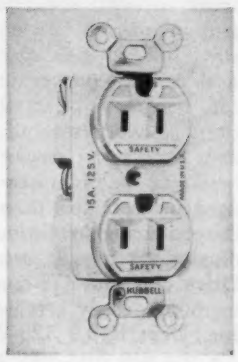
HIGH PRESSURE UNIONS have fast make-and-break feature



Full three-pitch Acme thread which turns easily, resists foreign matter clogging, and cleans easily is a feature of two high pressure unions. Fast make-and-break design adapts it for pipelines which must be disassembled frequently. The 6000-psi working pressure union has a rubber-to-metal and metal-to-metal combination seat. Its rubber seal is replaceable. The 4000-psi model has a metal-to-metal seat only. Both are for 2-in. diameter pipe. • **Clayton Mark & Co.**, 1900 Dempster St., Evanston, Ill.

▲ For more details circle NED-200 E on enclosed inquiry slip ▲

GROUNDING RECEPTACLE has two-way shock protection



Twinsafe duplex safety grounding receptacle shunts current harmlessly away from metallic objects inserted in its slots. It also has a U-shaped slot for grounding power tools equipped with UL-type grounding plug. The only time that current can flow out through the slots is when both blades of the proper plug-in cap are firmly in place in the receptacle. • **Harvey Hubbell, Inc.**, State & Bostwick Streets, Bridgeport 2, Conn.

▲ For more details circle NED-201 E on enclosed inquiry slip ▲

Meet any in-line mounting conditions with standard models

FROM STOCK

BOSTON Gear OPTIMOUNT® HELICAL GEARED RATIOMOTORS

Vertical base-mounted OPTIMOUNT RATIOMOTOR one of 456 mounting arrangements of standard units — ready to install

With OPTIMOUNT optional mounting, you can order the arrangement you need — with any shaft position required — for any floor, wall, or ceiling mounting position. For complete information . .

FROM STOCK!

CALL YOUR BOSTON Gear DISTRIBUTOR

▲ For more details circle NED-202 E on enclosed inquiry slip ▲

Detachable design permits easy motor change – unlimited choice

BOSTON Gear OPTIMOUNT® HELICAL GEARED

OPTIMOUNT Ratiomotor gear unit can be ordered without motor, if desired – as a Flanged Reductor, ready for mounting separately purchased motor.

The standard NEMA flange on OPTIMOUNT Ratiomotors permits motor change in minutes. You save costly downtime for motor repairs. For complete information . . .

FLANGED REDUCTOR

CALL YOUR BOSTON Gear DISTRIBUTOR

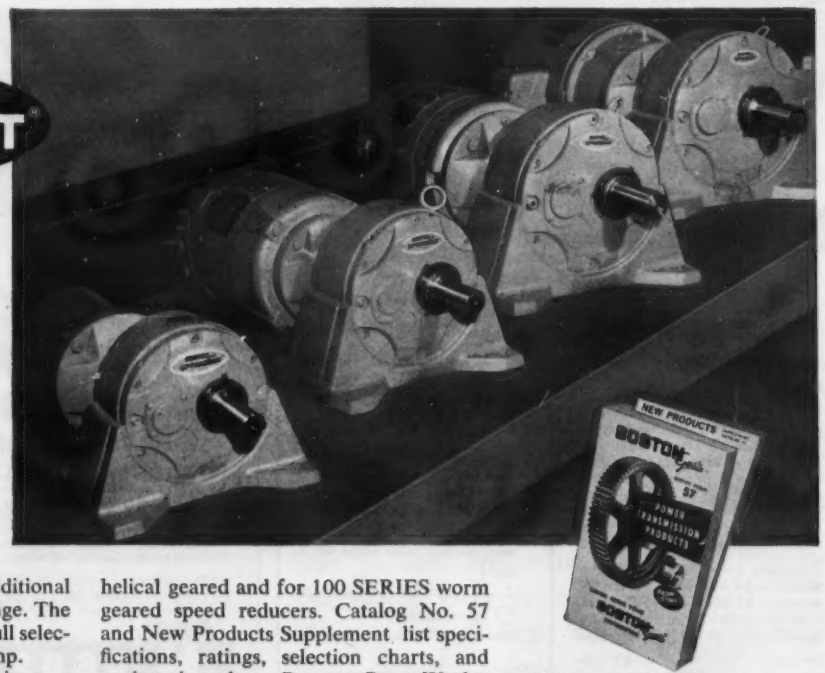
▲ For more details circle NED-203 E on enclosed inquiry slip ▲

BOSTON Gear OPTIMOUNT®

HELICAL GEARED RATIOMOTORS

now available in NEW SIZES and ratings

FROM STOCK!



New smaller models provide additional ratings in the ¼ to ½ hp motor range. The standard larger models provide a full selection of ratings for drives up to 10 hp.

Your BOSTON Gear Distributor is your local supply center for OPTIMOUNT helical geared and for 100 SERIES worm geared speed reducers. Catalog No. 57 and New Products Supplement list specifications, ratings, selection charts, and engineering data. Boston Gear Works, Quincy 71, Massachusetts.

Ask your Distributor for NEW PRODUCTS SUPPLEMENT to Catalog No. 57

For complete information, call your BOSTON Gear DISTRIBUTOR

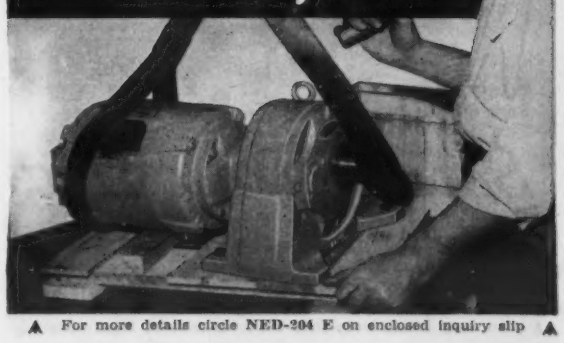
▲ For more details circle NED-198 E on enclosed inquiry slip ▲

Design around

BOSTON Gear OPTIMOUNT® HELICAL GEARED RATIOMOTORS

Get the model you want – arranged as specified – ready to install FROM STOCK — at factory prices

CALL YOUR NEARBY BOSTON Gear DISTRIBUTOR



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Other FLEX-A-PRENE "Firsts"

- Lint free — no wicking action.
- All parts non-toxic — non-allergic.
- Self-adjusting — snug-fitting.
- Simply designed for easier filter removal.
- Inside of frames serrated for airtight locking.
- Weighs only 1 ounce.
- Designed for use with goggles or spectacles.
- Only 4 tough long-wearing, interlocking parts.
- Non-irritating plastic frames — unbreakable in normal usage.
- Prenex filter outlasts all throw-away types. Savings pay the cost of a complete mask.

sample $1.50 postpaid
Quantity prices as low as $1.15
Positive Protection Against Pigment Overspray!
(Industrial Prices Only)

FLEXO Products, Inc. Westlake, Ohio

▲ For more details circle NED-205 E on enclosed inquiry slip ▲

Model F1A Phil-Dump

Sturdy and Dependable for Dumping and Storing

Solidly built to take a beating when used with a platform or a fork lift truck, the F1A Phil-Dump saves time and money in the handling of a variety of bulk materials. This low-cost device dumps automatically and returns to upright locked position. It stacks easily and safely for storage either full or empty. Features are a non-slip fork slot in the pallet and a patented safety lock which prevents accidental dumping. Capacity is 1 cu. yd. Larger and smaller Phil-Dumps are available. Write for prices.

Ask about Salem-Brosius transfer cars

Write for information about Salem-Brosius industrial trailers

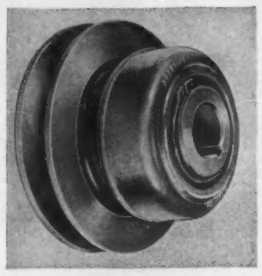
SALEM-BROSIUS, INC.

16 Arch Street • Carnegie, Pa.

PHILLIPS MATERIALS-HANDLING EQUIPMENT

▲ For more details circle NED-206 E on enclosed inquiry slip ▲

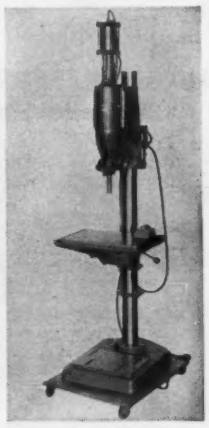
VARIABLE PITCH SHEAVE spring loaded in 3 to 6-in. sizes



By simply adjusting the center distance, a wide speed range can be covered by Browning spring loaded variable pitch sheave. It can be used as a replacement for ordinary sheaves and adapts to nearly any machine using a V-belt. Pitch diameter adjustment range in smallest size is 1.4 to 2.9 in., and in largest is 4.2 to 5.7 in. Sheave is offered in 3, 4, 5, and 6-in. OD sizes and bores of 1/2, 5/8, 3/4, 7/8, and 1 in. • **Browning Mfg. Co.**, 1940 Browning Dr., Maysville, Ky.

▲ For more details circle NED-207 E on enclosed inquiry slip ▲

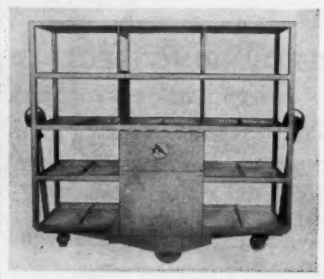
DRILLING MACHINE with air powered drill feed



Operating from shop air line, the 3-in. diameter air cylinder on Model 604 drilling machine provides drill thrust of about seven times line pressure. Feed rate is hydraulically controlled and is continuously variable. Threaded adjustable sheaves on motor and spindle drive provide spindle speeds from 600 to 4000 rpm. Unit has single or three-phase motor, air controls, worklight, oil groove table with raising mechanism, and a No. 2 Morse taper spindle socket or 1/2-in. chuck. • **Electro Mechano Co.**, 241 E. Erie St., Milwaukee 2, Wis.

▲ For more details circle NED-208 E on enclosed inquiry slip ▲

POWERED SHELF TRUCK drives and steers from either end



Drive and steering controls in handles at each end of this walkie type electric powered shelf truck make it convenient to operate in narrow aisles. It is also usable for delivering tote pan loads of small parts to work stations, as a general service truck, or for order selection and handling small packaged items in less than pallet load quantities. Shelves can be made in various widths, lengths, and vertical dimensions to suit user's need. Capacity is 2000 lb. Drive unit and 175-amp-hr battery in center compartment are easily serviced. • **Lewis-Shepard Products, Inc.**, Dept. R10-9, 125 Walnut St., Watertown 72, Mass.

▲ For more details circle NED-209 E on enclosed inquiry slip ▲

THIS AMAZING TOOL actually enables you to see around corners and into otherwise inaccessible areas.

Kit No. 5 (illustrated) consists of a sturdy aluminum Conduct-A-Lite with batteries, one 6" Lucite light conductor, one 4" Lucite light conductor with 24° curve and one distortion-free 1 5/16" clip-on mirror. It is packaged in a sturdy plastic case that fits easily in a shirt pocket.

Complete kit.....$4.95.

Complete kit with 3/4", 7/8" or 1" mirror — $4.95; with 1/2" or 5/8" mirror — $5.20; with 1 1/4" mirror —$5.95; with 1 1/2" mirror—$6.60. Specify plain or magnifying type.

Straight or curved Lucite light conductors up to 24" in length are obtainable.

FOSTER SUPPLIES COMPANY
6122 Milwaukee Ave.
Chicago 46, Illinois

Gentlemen:

☐ Send ____ No. 5 Conduct-A-Lite kits with mirror size ____ (Unless otherwise specified, plain mirror will be sent.)

$ ____ enclosed ☐ Send C.O.D.

☐ Bill my company.

☐ Send informative literature at no cost.

Name ____

Company Name ____

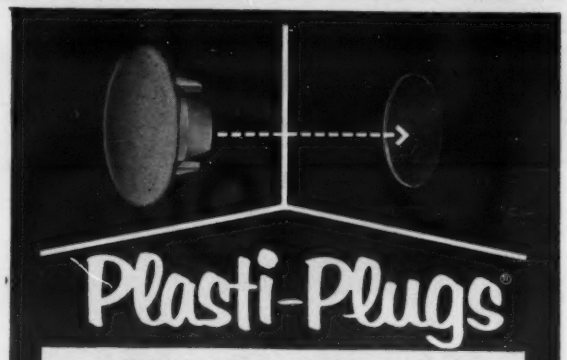
Address ____

City ____ State ____

ORDER YOURS TODAY!

FOSTER SUPPLIES COMPANY
6122 Milwaukee Ave.
Dept. NED, Chicago 46, Ill.

▲ For more details circle NED-210 E on enclosed inquiry slip ▲



Plasti-Plugs®

45 STANDARD SIZES

FASTEX® Plasti-Plugs® snap-in type plastic plugs— are available for a wide range of applications, including:

- Ventilation Holes
- Access Holes
- Sealing Plugs
- Frictionless Glides
- Indicator Buttons
- Appliance Feet
- Spacer Buttons
- Conduit Holes

Available in several plastic materials, Plasti-Plugs can be color-matched to your product saving expensive rack painting, and they just snap in.

Write for FREE Plasti-Plug Folder.

FASTEX

195 Algonquin Road, Des Plaines, Illinois
In Canada: SHAKEPROOF-FASTEX, Division of Canada Illinois Tools Ltd., Toronto, Ont.
A DIVISION OF ILLINOIS TOOL WORKS

▲ For more details circle NED-211 E on enclosed inquiry slip ▲

PROVEN, DEPENDABLE... REAR-PROJECTION TYPE

IN-LINE DIGITAL DISPLAYS

A Model and Size For Your Every Requirement

PRICES
Series 10000 1 9/16" wide 2 5/8" high 5 5/8" long $18.00 each
Series 80000 3 1/4" wide 5 1/4" high 11 5/16" long $33.00 each
Series 120000 1" wide 1 9/16" high 3 7/8" long $35.00 each
Quantity Prices On Request

OUTSTANDING FEATURES

- All digits displayed on front viewing screen
- All digits uniform in size and intensity
- High-contrast viewing screen
- Digit style of your choice
- Colored digits of your choice
- Individual units may be group assembled for panel mounting

WRITE TODAY FOR COMPLETE DETAILED SPECIFICATIONS
Representatives in principal cities

INDUSTRIAL ELECTRONIC ENGINEERS, INC.
5528 Vineland Avenue North Hollywood, California

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Modern Methods Cost Less

SAVE MATERIAL AND TIME WHEN YOU CUT PAPER, LEATHER, PLASTICS, OTHER SOFT STOCK

Whatever soft materials you cut, Hobbs-Jacques Hand Shears do the job quickly and accurately in one easy stroke. Even if it's only an occasional operation, modern "engineered cutting" equipment saves the cost of waste materials and time.

Hobbs-Jacques Hand Shears include a complete line for widths 16" to 10'. Bench and table models, with and without gauges.

Write for "Engineered Cutting" brochure. No obligation!

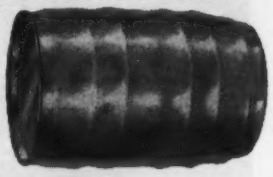
HOBBS MANUFACTURING CO.
41E SALISBURY ST., WORCESTER 5, MASS.

Branch Offices & Representatives in Irvington, N. J., Chicago, Cleveland, Greenville, S. C., Los Angeles, Toronto, Can., Louisville, Ky. and other principal cities

WINDERS
HAND AND POWER SHEARS
DIE PRESSSES
SLITTERS

▲ For more details circle NED-213 E on enclosed inquiry slip ▲

Increase Your Production Capacity the Easy, Low-Cost Way! Use the...



Alcoa JOBBING DIVISION

In a production jam because of temporarily inadequate facilities? Not tooled up for components you'd like to be making? Need specialized equipment or personnel?

Alcoa's Jobbing Division can solve any or all of these problems . . . save you money and time . . . give you the service of all the metal-working machines and fabricating facilities you need *without* capital investment . . . offer engineering and design help . . . and can produce the product for you!

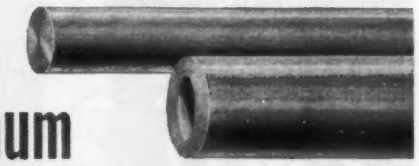
For information, see your nearest Alcoa sales office. (For a free, 16-page booklet describing Alcoa's Jobbing Division facilities, check the coupon at the bottom of this page.)

CALL YOUR NEAREST ALCOA SALES OFFICE!

ALCOA ALUMINUM
JOBBING DIVISION

▲ For more details circle NED-214 E on enclosed inquiry slip ▲

For Bearings and Bushings That Cost Less, Give More and Last Longer...



Alcoa Aluminum BEARING STOCK!

Need bearing stock for bushings and bearings? Your Bunting Distributor stocks Alcoa® Aluminum Bearing Stock in a warehouse not far from *you!*

Aluminum bearings withstand loads up to 10,000 psi; run as much as 20 degrees cooler than other materials; reduce starting torque. Aluminum is easily machined. It conforms readily to misaligned shafts. It's longer lasting in tough service.

Call your Bunting Distributor now, and start to save money. Like more information? Check the coupon below!

CALL YOUR BUNTING DISTRIBUTOR TODAY!

ALCOA ALUMINUM
BEARING STOCK

▲ For more details circle NED-215 E on enclosed inquiry slip ▲

Cut Your Fastener Inventory! Get Any Type or Size; High-Strength, Heat-Treated Alloys; Low Prices; Fast Delivery... of

Alcoa Aluminum FASTENERS

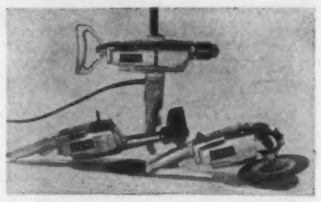
No need to maintain a big inventory on fasteners. Look in the Yellow Pages for your local Alcoa distributor. He has the largest line of aluminum fasteners available today—Alcoa® Aluminum Bolts, Nuts, Rivets, Machine Screws, Wood Screws, Sheet Metal Screws, Washers, anything you need in standard types and sizes—and offers complete stocks, fast deliveries, lowest prices. Alcoa Aluminum Fasteners are made from corrosion-resistant, fully heat-treated, high-strength alloys with full threads, no burrs. And you'll get *full count* on every order . . . no misfits, "seconds," rejects. No need to stock too many, no need to run short. Call your local Alcoa distributor! (For more data and samples, check the coupon at the bottom of this page.)

CALL YOUR NEAREST ALCOA DISTRIBUTOR!

ALCOA ALUMINUM
FASTENERS

▲ For more details circle NED-216 E on enclosed inquiry slip ▲

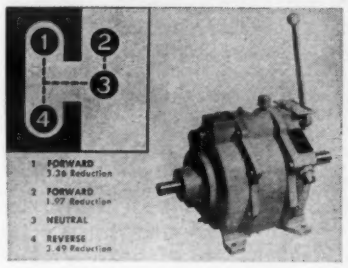
PORTABLE POWER TOOLS line includes 16 industrial models



Sixteen portable power tools make up a new line for industrial use. Included are ten heavy duty drills with capacities from ½ to 1½ in., three 6 and 9-in. disc sanders, a 7-in. polisher, and 5 and 6-in. portable grinders. They range up to 35 per cent lighter in weight and 100 per cent more powerful than previous models. Balanced design, high speed air flow for ventilation, comfortable handles, sealed trigger switches, sealed construction, ease of maintenance, sealed and shielded ball bearings which are lubricated for life, and heavy duty cords are added features. • **Stanley Works**, Stanley Electric Tools Div., Dept. PD, 195 Lake St., New Britain, Conn.

▲ For more details circle NED-217 E on enclosed inquiry slip ▲

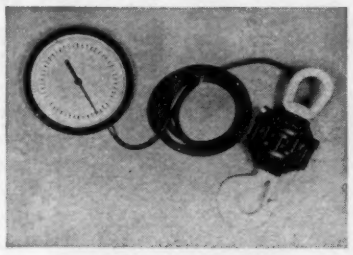
REVERSING TRANSMISSION has 8-hp, 2400-rpm maximums



Two speeds forward, neutral, reverse, and speed reduction are combined in the Model 5131 transmission. The 12⅝ x 10 x 10-in. unit transmits up to 8 hp at a maximum recommended input speed of 2400 rpm. Reduction ratios are 1.97 and 3.36 to 1 in forward speeds and 3.49 to 1 in reverse. Unit shifts smoothly as often as necessary and under full load. • **Snow-Nabstedt Gear Corp.**, Industrial Div., 251 Welton St., Hamden, Conn.

▲ For more details circle NED-218 E on enclosed inquiry slip ▲

CRANE SCALE in 1000 to 60,000-lb capacities



By weighing and handling material in one operation this remote indicating crane scale will save time and money. Load element and indicator are separate units connected by up to 50 ft of flexible double wire braid hose. Indicator can be mounted at eye level regardless of height of the load element picked by the crane hook. Unit also has a safety factor of five times rated capacity, 360-degree calibration, and 25 per cent tare adjustment. Calibrated, factory sealed scales are available in 1000 to 60,000-lb capacities. • **Martin-Decker Corp.**, 3431 Cherry Ave., Long Beach 7, Calif.

▲ For more details circle NED-219 E on enclosed inquiry slip ▲

Stop Accidents! Protect Your Employees, Keep Production Moving . . . with

Alcoa Aluminum ABRASIVE TREAD PLATE

Get lasting protection against slipping with Alcoa® Aluminum Abrasive Tread Plate . . . made with tough particles of fused aluminum oxide. Much lighter in weight, it's *much easier to install.* Corrosion resistant, it's *maintenance-free.* Long usage only renews the surface, uncovering embedded abrasive particles. Wherever the floor becomes wet, oily, greasy—wherever slippery materials accumulate—install Alcoa Aluminum Abrasive Tread Plate! (For sample and free booklet, check the coupon at bottom of this page.)

CALL YOUR NEAREST ALCOA DISTRIBUTOR!

ALCOA ALUMINUM
ABRASIVE TREAD PLATE

▲ For more details circle NED-220 E on enclosed inquiry slip ▲

Quick Delivery of the Finest Welding Supplies Means a Better Welding Job . . . Faster!

Alcoa Aluminum WELDING MATERIALS

Lower final costs, improve finished quality by using Alcoa materials! Get answers, too—Alcoa offers you the benefit of extensive research in alloys, techniques, joining methods.

Here are some of Alcoa's welding materials:

- IG (Inert Gas) Welding Electrode
- Coiled Welding and Brazing Rod
- Straight-Length Welding and Brazing Rod
- Welding, Brazing and Soldering Flux
- Solder

For technical assistance, call your nearest Alcoa sales office. For quick delivery of materials, call your nearest distributor. (For welding films and recently released welding design information, check coupon below.)

CALL YOUR ALCOA SALES OFFICE, OR NEAREST ALCOA DISTRIBUTOR!

ALCOA ALUMINUM
WELDING MATERIALS

▲ For more details circle NED-221 E on enclosed inquiry slip ▲

Offering the Broadest Distribution Organization in the Field . . .

ALCOA SALES OFFICES AND DISTRIBUTORS

Look in the Yellow Pages under "Aluminum"! There is an Alcoa sales office or an Alcoa distributor very near to you. Warehouses fully stocked with Alcoa® Aluminum products are strategically located everywhere. All the resources of Alcoa are yours, too: design help, research and development, production facilities, literature! Use this coupon for fast results . . . right now.

Aluminum Company of America
1840-S Alcoa Building, Pittsburgh 19, Pa.

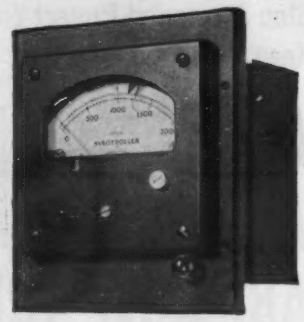
Please send me the samples or information I have checked: Sample ☐ Free Booklet ☐ on Alcoa Aluminum Abrasive Tread Plate. Samples ☐ More Data ☐ on Alcoa Aluminum Industrial Fasteners. Free 16-Page Booklet ☐ on Alcoa Aluminum Fabricating Facilities. Information on Welding Films ☐ Latest Welding Design Information ☐ More Information on Alcoa Aluminum Alloy Bearing Stock ☐

NAME _____
TITLE _____
COMPANY _____
STREET ADDRESS _____
CITY _____ ZONE _____ STATE _____

ALCOA ALUMINUM
ALUMINUM COMPANY OF AMERICA

AUTOMATIC TEMPERATURE CONTROL

Alnor PYROTROLLER®



C_m—Mode of control On-Off.
R_T—High-reliability electron tube operates relay on command of temperature indicator.
S_R—Sensitivity of response is such that a temperature change of only .3% of full scale will cause control action.
S^2—Accuracy of rugged movement is plus or minus 1% full scale.
T/W—Torque-to-weight ratio is high of this double-pivoted, moving coil, permanent-magnet type movement. Hardened steel pivots. Phosphor bronze springs. Sapphire bearings.
TC_1—Alnor® Thermocouple Accessories offer you the best engineered control package for all applications from 0-400°F. to 0-3000°F.

$$\frac{C_m\,(T/W^{3/2})\,(1+R_T^2)}{S_R} \times AM + TC_1 = \text{Alnor automatic Pyrotroller temperature control.}$$

Get complete details on this compact electronic indication-controlling pyrometer by writing to: Pyrotroller, Illinois Testing Laboratories, Inc., Room 529, 420 N. LaSalle St., Chicago 10, Illinois.

ILLINOIS TESTING LABORATORIES, INC.
420 N. LaSalle St., Chicago 10, Illinois

▲ For more details circle NED-224 E on enclosed inquiry slip ▲

Bench Tops

LAMINATED HARD MAPLE

Steel bench bases, legs and drawers available for use with Tolco Tops. Write for complete illustrations and prices.

ESTABLISHED 1894
THE TOLERTON COMPANY
265 N. FREEDOM AVE. • ALLIANCE, OHIO

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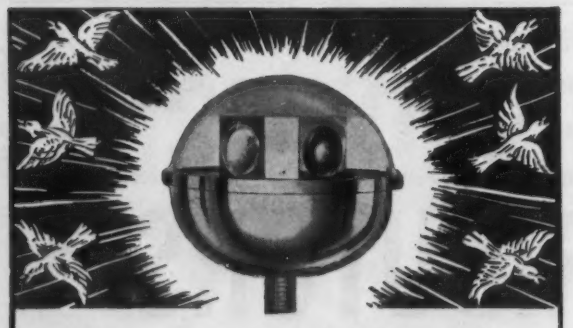


It's for the BIRDS!

STOP COSTLY WAREHOUSE DAMAGE . . .
Flash the MARK VIII Bird Eliminator

Now, bird damage so expensive to packaged goods, sheet steel, machinery, grain and other merchandise stocked inside warehouses can be eliminated! This light covers 360° like an airplane beacon with dual colored beams at the rate of 200 a minute. The roving rays continuously disturb the birds, interrupting their feeding and nesting to the extent that they do not remain. Lifetime vitreous enameled housing can't corrode. Operates on 115-120 V, is easily installed and has a 2000-hour bulb.

Get the Facts—Write TODAY!

TRIPPE MANUFACTURING CO.
133 N. Jefferson, Dept. F-3, Chicago 6, Ill.

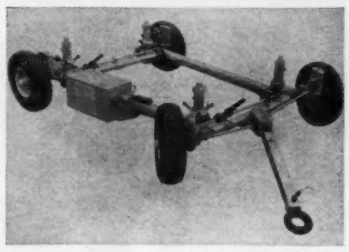
▲ For more details circle NED-226 E on enclosed inquiry slip ▲

CITIZEN'S BAND RADIO
features automatic volume control

Five crystal controlled channels are built into the receiver and transmitter of Miratel CR-117 citizen's band two-way radio. Sensitive receiver unit has a signal meter which reads input levels as low as 1 uv. Audio output is 5 w. Automatic volume control is built into all RF and IF stages. Modulator of the transmitter provides over 7.5 w audio power, and the modulation meter permits adjustment of output coupling circuits for different antennas. The front panel has a microphone jack. Receiver section has eight tubes and the transmitter has five tubes. Price is $229. • **Miratel, Inc.**, 1080 Dionne St., St. Paul 13, Minn.

▲ For more details circle NED-227 E on enclosed inquiry slip ▲

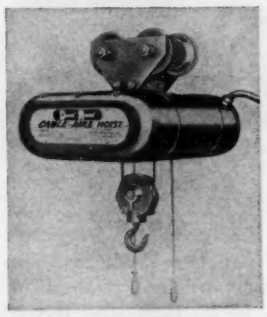
LIGHTWEIGHT TRAILER
carries components weighing 3000 lb



This lightweight, versatile trailer is easily operated by one man in handling all types of commercial and industrial components weighing up to 3000 lb. Trailer affords positive control of load position in pitch, roll or elevation, straddle capability, low collapsed height for load positioning and transportation, short turning radius, coil spring suspension system, and individual 90-degree wheel positioning capability. • **Northrop Corp.**, Norair Div., 1001 E. Broadway, Hawthorne, Calif.

▲ For more details circle NED-228 E on enclosed inquiry slip ▲

CABLE TYPE AIR HOIST
hoists close to overhead support



Construction of this air-operated Cable-Aire hoist allows hoisting of load close to overhead supports. Unit is powered by rotary vane, explosionproof air motor and is protected against burn-out from overload. Control valve automatically returns to neutral upon release of rope pendant. Standard lifts of 20 and 40 ft with variable speeds are offered in 1/4 to 2-ton capacities. • **David Round & Son, Inc.**, Box 198, Cleveland 39, Ohio.

▲ For more details circle NED-229 E on enclosed inquiry slip ▲

STOP FIRES FROM CARELESS SMOKING WITH SIPCO DUNKING STATIONS

Canister extends only 5½" from mounting surface.

Thousands of businesses, Industries and Institutions have discovered that SIPCO DUNKING STATIONS not only eliminate fire hazards from smoking, but also prevent litter, thus greatly reducing cleanup time.

Heavy duty cast aluminum canisters guaranteed 3 years against breakage. Over 20 different models. Standard and Jumbo sizes. Wall models, Floor models and permanent mounting models. Grey crinkle or bright polished models. With or without message signs and decals. Special colors, signs or decals on special order.

SIPCO DUNKING STATIONS are designed to be partly filled with water. "Smokes" dropped in the large top hole are OUT FOR GOOD—NO SMOULDERING—NO ODORS—NO UNSANITARY CONDITIONS. Lift off the canister or lift out an inner-liner, dump it and the cleaning job is done.

MODEL 4J: For permanent mounting on walls, posts, columns, etc., in public areas. Eliminates pilfering problem. Bright polished JUMBO canister furnished with glass-fiber innerliner.

MODEL 1JD: Jumbo size deluxe floor model. Heavy weighted base and eye catching sign. Height 38". Wt. 26 lb. Ideal for halls, aisles, landings, etc.

MODEL M: New MIDGET SAFE SMOKER designed for use in telephone booths, elevators, toilet stalls, on benches, chairs, work tables or any location where a small "individual type" smoker is needed. Cast aluminum canister; coil spring across hinged lid safely "parks" unfinished "smokes". Available in grey crinkle or DELUXE bright polished finishes.

Model 1JD

Model 4J

MODEL M

WRITE FOR ILLUSTRATED BROCHURES

STANDARD INDUSTRIAL PRODUCTS CO.
DEPT. D • 3527 FARMINGTON RD. • PEORIA, ILLINOIS

▲ For more details circle NED-230 E on enclosed inquiry slip ▲

ANCHOR . . . THE PLEDGE OF PERFORMANCE
IN HYDRAULIC TRANSMISSION LINES

Anchor Pressed-On Couplings for high, medium and low pressure hose assemblies.

Anchor Reusable Couplings—Regular or Clamp Type—for high, medium and low pressures.

Anchor 4-Bolt Split-Flange "O" Ring Couplings for high, medium and low pressures.

Anchor Adapter Unions, Pipe Fittings, and SAE Boss Type Fittings for wide range of applications.

Andy Anchor Says:

Send for Catalog describing the complete Anchor line.

ANCHOR COUPLING CO. INC.
324 North Fourth St., Libertyville, Ill.
Branch Plants: Dallas, Tex., Plymouth, Mich.

▲ For more details circle NED-231 E on enclosed inquiry slip ▲

MAKE UP YOUR OWN V-BELTS . . . IN ANY LENGTH with ALLIGATOR® V-BELT FASTENERS

AND A LENGTH OF CROSS-WOVEN TYPE V-BELTING
(Available by the foot in sizes A, B, BB, C, D & E)

1. Cut off the required length of V-Belting.
2. Attach Alligator V-Belt Fastener
3. Thread belt ends around sheaves and join fastener

ORDER FROM YOUR DISTRIBUTOR or write to us for bulletin no. V-227

FAST AND EASY INSTALLATION ON ALL V-DRIVES

Flexible STEEL LACING COMPANY
4664 LEXINGTON ST. • CHICAGO 44, ILLINOIS

▲ For more details circle NED-232 E on enclosed inquiry slip ▲

what is a neg'ator®?

It's a *constant-force* spring. A new basic mechanical component. A coiled band which extends many times its original size without the increasing force common to conventional springs. Now being used as an extension member, a motor, band, clamp, or clip, it upsets all previous spring principles. It does what springs have never done before.

Do you want a NEG'ATOR constant-force spring to test for yourself? Write us, *on your letterhead*, and we will send you, free, a 30-inch long sample spring with a force rating of approximately ½ pound.

®Trademark for Hunter's non-cumulative force spring.

HUNTER SPRING COMPANY
A Division of American Machine and Metals, Inc.
14 Spring Avenue, Lansdale, Pennsylvania

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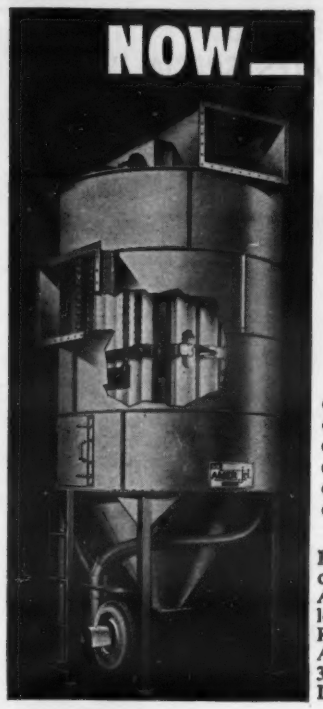


NOW— a constant-volume, compact fabric dust collector!

AAF's new Model B AMERjet

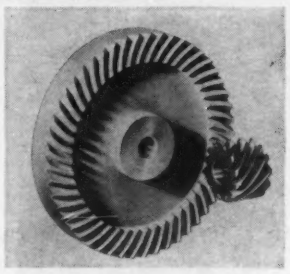
- FEWER FILTER BAGS
- TAKES LESS SPACE
- SUPER-RUGGED DRIVE
- REDUCES MAINTENANCE
- MODULAR DESIGN
- REDUCES JOB-SITE CONSTRUCTION

For complete information on the new Model B AMERjet, write for Bulletin 279C. Address: Mr. Robert Moore, American Air Filter Company, Inc., 391 Central Avenue, Louisville, Kentucky.

American Air Filter
BETTER AIR IS OUR BUSINESS

▲ For more details circle NED-234 E on enclosed inquiry slip ▲

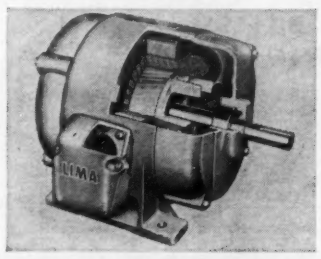
FACE GEARS
3:1 to 400:1 ratio range offered



Helicon face gears are low in cost, yet maintain a high degree of insensitivity to mounting errors. Depending upon size and application, the skew-axis gears may be hobbed, cast of metal or plastic, or compacted of sintered metal. They are applicable through a 3:1 to 400:1 ratio range. Pinions may be rolled, milled, or chased, or hobbed on higher number of teeth. • **Illinois Tool Works,** Spiroid Div., 2501 N. Keeler Ave., Chicago 39, Ill.

▲ For more details circle NED-237 E on enclosed inquiry slip ▲

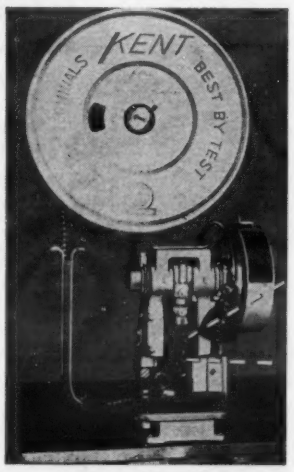
RERATED ELECTRIC MOTORS
in 1 to 150-hp ratings



Type RS dripproof general-purpose motors, redesigned to meet new NEMA specifications, are available in ratings from 1 to 150 hp and frame sizes 182 through 505. Features include cast iron frames with integral feet, solid die cast rotors with integral cooling fans, dynamically balanced rotor assembly, and Mylar insulation throughout. Double width sealed ball bearings require no lubrication. Rated temperature rise is 40° C. Motors are available for two or three-phase current in all frequencies and commercial voltages below 600. • **Lima Electric Motor Co.,** Dept. 124, Lima, Ohio.

▲ For more details circle NED-238 E on enclosed inquiry slip ▲

TERMINAL MACHINE
attaches many styles rapidly



Ring, spade, fork, hook, snap-on, or snap-in electrical terminals, with or without insulation grip, are rapidly attached on any size wire from No. 22 to 10 by this high speed machine. Change in wire size is accommodated by adjusting two selector dials which regulate staking pressure. • **Kent Mfg. Corp.,** 188 Needham St., Newton 64, Mass.

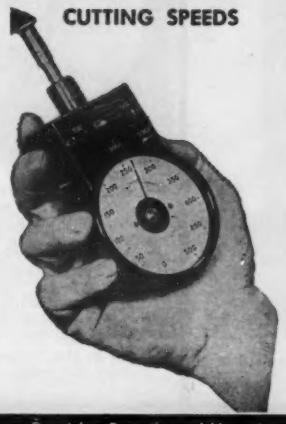
▲ For more details circle NED-239 E on enclosed inquiry slip ▲

SMITHS TACHOMETERS

For Precise and Rapid Measurements of

- **Magnetic Design** Steady readings accurate to ±0.5% at any part of any scale.
- **Instantaneous Reading** No timing or waiting.
- **Self-Powered** Needs no battery. Always ready for immediate use at full accuracy.
- **Nine Ranges** To 50,000 rpm on highest. Interpolate tenths of rpm on lowest.
- **Overspeed Protection** Inherent and built-in.
- **Hold Button** "memorizes" reading when desired.

SHAFT SPEEDS
SURFACE SPEEDS
CUTTING SPEEDS



Complete Service Facilities — Send for Details and Literature
CLARENCE J. MARX CO.
Box 4033, Cleveland 23, Ohio

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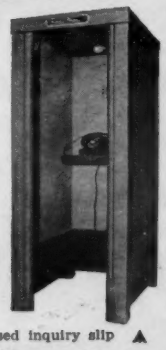
...be heard there!

Place phones where you need them — with Acousti-Booths, noises won't interfere with conversations. Noises are absorbed before they can interfere with hearing and speech.

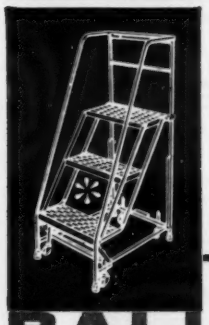
There is a model suitable for every location. And as always — the acoustical performance is guaranteed.

For model descriptions and prices, write for Bulletin No. A-142-41



3 Heating Cooling Ventilating
BURGESS-MANNING COMPANY
Architectural Products Division
749 East Park, Libertyville, Ill.

▲ For more details circle NED-242 E on enclosed inquiry slip ▲



LOW C.G. —more safety

BALLYMORE Safety-Step LADDERS
WITH OR WITHOUT HANDRAILS

Safe, wide-base Ballymore pyramid design provides a new low center of gravity, gives a new stability at heights up to 15 ft. Sturdily welded, corrosion-resistant steel or aluminum Safety-Step ladders can be moved easily on casters to any area, grip floor firmly when stepped on. 4 types, 47 models.

For illustrated catalog covering complete line, write to BALLYMORE COMPANY, WEST CHESTER 3, PA.

Call your LOCAL DISTRIBUTOR

BALLYMORE
EQUIPMENT FOR WORKING *Safely* ABOVE FLOOR LEVEL

▲ For more details circle NED-235 E on enclosed inquiry slip ▲

NEW Stearns electro-magnetic DISC BRAKE BULLETIN

8 Pages packed with data . . . dimensioned drawings . . . torques . . . weights . . . selection information. Request Bulletin 605

For superior Performance of ANY Machine . . . Specify Stearns!

Stearns ELECTRIC CORPORATION
120 North Broadway
Milwaukee 2, Wisconsin
Phone: BRoadway 2-1100
THE COMPLETE LINE OF CLUTCHES . . . BRAKES . . . CLUTCH-BRAKES

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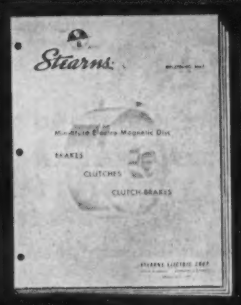
NEW Stearns BULLETIN miniature CLUTCHES . . . BRAKES



12 Pages of engineering data — dimensions — performance curves — weights — complete selection information. Request Bulletin 504-E

For superior Performance of ANY Machine . . . Specify Stearns!

Stearns ELECTRIC CORPORATION
120 North Broadway
Milwaukee 2, Wisconsin
Phone: BRoadway 2-1100
THE COMPLETE LINE OF CLUTCHES . . . BRAKES . . . CLUTCH-BRAKES

▲ For more details circle NED-240 E on enclosed inquiry slip ▲

NEW Stearns electro-magnetic GS CLUTCH BULLETIN

4-Page Bulletin on this complete line of Stationary Magnet-Type Clutches . . . Torques, Weights, Dimensions. Request Bulletin 503

For superior Performance of ANY Machine . . . Specify Stearns!

Stearns ELECTRIC CORPORATION
120 North Broadway
Milwaukee 2, Wisconsin
Phone: BRoadway 2-1100
THE COMPLETE LINE OF CLUTCHES . . . BRAKES . . . CLUTCH-BRAKES

▲ For more details circle NED-243 E on enclosed inquiry slip ▲

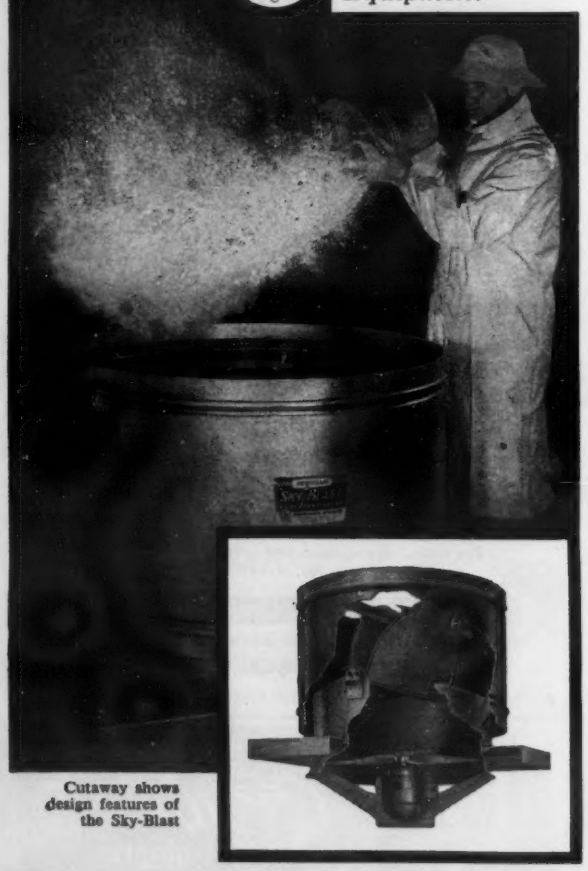
Hose and hose fittings are easy to select from this 72-page Parker Catalog

It's easy to choose the best Parker Hose and Parker Hose Fittings to handle practically any gas from air to freon, practically any liquid from water to synthetic hydraulic fluids from the data, specs, and recommendations in the complete Parker Hose Fittings and Hose Catalog 4400. Also includes useful information on assembling both standard and Parker "no-skive" Hoze-Lok Fittings to 15 types of Parker Hose.

Your Parker Hose Fittings and Hose distributor, listed in the Yellow Pages, can furnish you a copy. Or write . . .

Parker FITTINGS AND HOSE DIVISION
17325 Euclid Avenue • Cleveland 12, Ohio
A DIVISION OF PARKER-HANNIFIN CORPORATION
▲ For more details circle NED-244 E on enclosed inquiry slip ▲

PROPELLAIR® Ventilating Equipment

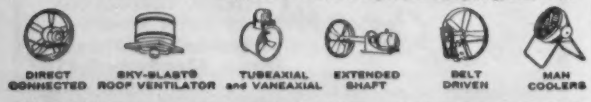


Cutaway shows design features of the Sky-Blast

Free-Flow SKY-BLAST® Roof Ventilators are WEATHERPROOF!

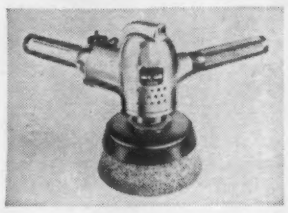
Even if the rain comes down in buckets, there's no need for weather covers on SKY-BLAST roof ventilators. In operation, the powerful airstream keeps out snow, rain and sleet. At rest, butterfly dampers form a water-tight seal, won't leak a drop. With no interfering covers, more air is moved at less cost. Fumes are thrown high in the air to prevent re-entry into the building and to eliminate roof maintenance problems created by other types of ventilators. Wind velocity or direction can't affect performance. Heavy gage steel surfaces are hot-dip galvanized for real sou'wester protection. With patented, non-clogging rainshed, low wind guard, rugged base and condensate drain, it's always fair weather beneath a SKY-BLAST. Wind tunnel proven ratings to 78,000 cfm. Send for bulletin 680—NE

PROPELLAIR®
Div. of Robbins & Myers, Inc., *Springfield, Ohio*



MOVING AIR IS OUR BUSINESS®
▲ For more details circle NED-245 E on enclosed inquiry slip ▲

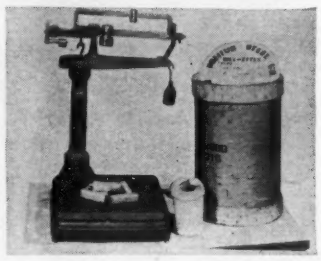
PNEUMATIC GRINDER
4500, 6000, 8000-rpm speeds offered



Weighing only 8½ lb, improved Model 600-V vertical pneumatic grinder, available in speeds of 4500, 6000, and 8000 rpm, is suitable for all but the heaviest metal removing and finishing jobs. Tool is now available with a revolving grinder wheel guard as well as stationary, adjustable cup guard. It will grind, sand, or do wire wheel work on any flat or curved surface, and can use a 7 or 9-in. depressed center disc wheel, as well as 6-in. abrasive wheel or brush. Thumb button, hand grip roll, or safety lever type throttles are offered. Motor is muffled. • **Airetool Mfg. Co.**, 328 S. Center St., Springfield, Ohio.

▲ For more details circle NED-246 E on enclosed inquiry slip ▲

SMALL CASTING BILLETS
in over 30 different alloys



Melting Bill-Ettes in over 30 different alloys including stainless steel afford time and money savings in investment casting. Cutting from larger units is eliminated, as well as any doubt as to heat number or type of alloy. Smaller sizes are packed in 100-lb kegs, with larger units packed in special skids. Sizes are offered to meet any requirement, even for the smallest crucible. • **Dreifus Steel Corp.**, 8 Cynwyd Rd., Bala Cynwyd, Pa.

▲ For more details circle NED-247 E on enclosed inquiry slip ▲

POCKET RADIO RECEIVER
for paging or in-plant communication

Worn in pocket, or clipped to belt, this 10-oz transistorized Handie-Talkie VHF pocket receiver provides 500 milliwatts audio output for reliable voice communications, even in noisy locations. It operates in the 25-54 megacycle and 144-174 megacycle bands and is powered by rechargeable battery or replaceable mercury cells. Unit has a built-in antenna, as well as a jack for connecting an external antenna. Trouser-leg and helmet mounting antennas are available. • **Motorola Inc.**, Communications & Industrial Electronics Div., 4501 W. Augusta Blvd., Chicago 51, Ill.

▲ For more details circle NED-248 E on enclosed inquiry slip ▲

this is it! 8 PAGES

The world's greatest Reamer
SELECTION *by the thousand's*
BY STYLES • DIMENSIONS
RANGES • SELECTIBILITY
STOCK ITEMS • NET PRICES

BUY SUPEREAM — The reamer that is sold and stocked in more sizes than any other reamer in the whole world.

TWENTIETH CENTURY MFG. CO., Box 429NED, Libertyville, Illinois
GENTLEMEN: Send us the NEW SELECTIVE CATALOG No. 10A.
NAME _____ Firm _____
Address _____
City _____ Zone _____ State _____

For world's greatest selection of REAMERS!
▲ For more details circle NED-249 E on enclosed inquiry slip ▲

MOTORIZED LIFT TRUCK BATTERY CHARGER ELIMINATES SPECIAL WIRING

- No special wiring required.
- Plugs into a standard 15-ampere, 60-cycle, 115 v convenience outlet.
- Long, trouble-free life.
- Convection cooled, requires no maintenance.
- No aging adjustments required.
- Can be wall or battery mounted.
- Fully automatic; portable.
- For all 12-volt hand motorized lift truck batteries, up to 660 A.H.

Write for complete details in Bulletin AR-100.

C&D AutoReg® Silicon Chargers
A PRODUCT OF C&D BATTERIES OF CONSHOHOCKEN, PA. . . ATTICA, IND. DIV. THE ELECTRIC AUTOLITE CO.

Manufacturers of Sylver-Clad® Industrial Batteries • PLASTICELL® • and PLASCOR® Batteries for Communications, Control, and Auxiliary Power • Producers of AutoReg® Silicon Chargers and AutoCel* • Charger-Battery Combinations.
*Trademark
▲ For more details circle NED-250 E on enclosed inquiry slip ▲

IF YOU MIX 2-PART RESINS GET THIS FREE BOOKLET!

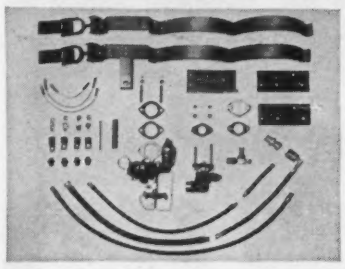
This concise, new booklet tells why Hardman TRIPLEMATIC® Pumps are 3-ways better for metering, mixing, and dispensing 2-part resins:

1 SIMPLIFIED, Maintenance-Free Operation
2 ADAPTABLE to All Applications
3 PRODUCTIVE, Cost-Saving Economies

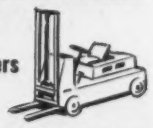
Write today for your free copy and discover all the features that make TRIPLEMATIC the outstanding performer wherever 2-part resins are used.

H. V. HARDMAN CO., INC.
587 Cortlandt Street, Belleville 9, N. J.
▲ For more details circle NED-251 E on enclosed inquiry slip ▲

BEAM LP-GAS CONVERSION SYSTEMS



CLARK—
HYSTER—
TOWMOTOR—
YALE & TOWNE
and all others



Whatever the make and model, whatever the brand and size of engine — BEAM'S ready-to-install systems have everything you need to convert your fork lifts and tow trucks to clean-burning, inexpensive LP-Gas.

FIRST WITH THE FINEST

For over 20 years Beam has been "out-front" with the latest ideas in LP-Gas Carburetion Equipment. You'll find that Beam's line of carburetors, regulators, filters, and installation systems not only do the job better and faster, but they are also much more compact and easier to install.

CONVERT WITH BEAM Write today for complete details and specifications for your equipment.

THERE'S A BEAM OFFICE NEAR YOU

BEAM PRODUCTS MFG. CO.
CALIFORNIA
Factory: 3040 Rosslyn St., Los Angeles 65
Export Division: 354 S. Spring St., Los Angeles 13
SALES OFFICES AND/OR WAREHOUSES
NEW YORK 96-10 Linden Blvd., Ozone Park 16, Queens
FLORIDA 2500 N.E. 48th St., Pompano Beach
TENNESSEE 2020 Airways Blvd., Memphis 4
ILLINOIS 1414 S. Michigan Ave., Chicago 5
▲ For more details circle NED-252 E on enclosed inquiry slip ▲

GENERAL ELECTRIC

POWER AMPLIFIERS

New high-speed-of-response power amplifiers—now available—offer designed-in characteristics especially suitable as control or power source on high-performance or servo motor systems. Response improved 6 to 8 times over standard ratings. Exceptionally versatile in controlling voltage, current, speed and position on a variety of applications which require fast response. ***Direct Current Motor & Generator Dept., General Electric Company, Erie, Pennsylvania.***

▲ For more details circle NED-253 E on enclosed inquiry slip ▲

GENERAL ELECTRIC

SERVO MOTORS

Now direct-current drive motors designed specifically for automatic control systems. New General Electric servo motors with compensated windings offer fast response, low time constant, linear torque per ampere and low inertia. Used with the new G-E power amplifier, servo motors can be applied to improve characteristics of many high performance systems. ***Direct Current Motor and Generator Department, General Electric Company, Erie, Pennsylvania.***

▲ For more details circle NED-254 E on enclosed inquiry slip ▲

GENERAL ELECTRIC

MULTIPLE-OUTPUT GENERATORS

A new General Electric multiple-output generator makes it possible to drive several adjustable-voltage loads from a single generator—provides light weight, space-saving generating equipment for several independent drive motions. New design has compensating windings arranged so that independent field windings can control power output on any set of brushes. ***Direct Current Motor and Generator Department, General Electric Company, Erie, Pennsylvania.***

▲ For more details circle NED-255 E on enclosed inquiry slip ▲

BLUEPRINT STORAGE FILE
30 and 42-in. widths offered

Blueprints, drawings, and other large sheet materials hang neat and flat in this wall-type file consisting of steel tube frame hinged to a plywood mounting panel and supported with locking hinge arms. Rubber-tipped lock-clips are used to mount sheets in the clamp hangers which are easily removed at any time. Model 30 which holds 30-in. wide sheets is priced at $49.50, whereas Model 42 holds 42-in. wide sheets and lists at $63.80. • **Lewbill Industries, Inc.,** 56 Spring St., Scottdale, Pa.

▲ For more details circle NED-256 E on enclosed inquiry slip ▲

CUTOFF WHEELS
in diameters up to 26 in.

All types of high speed production cutting can be done with Dayton Safety cutoff wheels, ranging from 1/32 to 1/4 in. thick with aluminum oxide and silicon carbide abrasives in various grain sizes. Resinoid, resin-rubber, and reinforced wheels are available in diameters up to 20 in., whereas rubber wheels range up to 26-in. diameters. Wheels are offered for all makes and models of cutoff machines, and for both wet and dry cutting operations. • **Simonds Worden White Co.,** 1101 Negley Place, Dayton 7, Ohio.

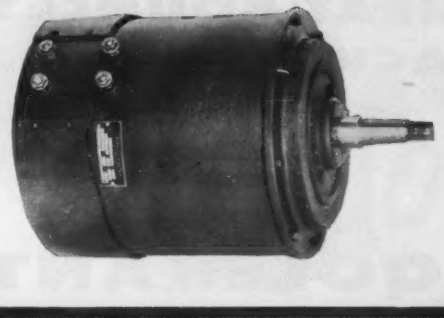
▲ For more details circle NED-257 E on enclosed inquiry slip ▲

DEMINERALIZER CARTRIDGE
purifies 50 gal of water per hour

High purity wash and make-up water required in manufacture of semiconductors, transistors, and other electronic components is produced by the PM-8 pressure cartridge demineralizer. It operates as a down-flow mono-bed deionizer to "polish" process water to purities of 15 megohms at up to 50 gph. The plastic cartridge unscrews by hand for replacement of regenerated resins or other cartridge charges. The single unit can also be used as a cation or anion exchanger, water softener, activated carbon filter, oxygen remover, or organic scavenger. Maximum working pressure is 100 psi. • **Penfield Mfg. Co.,** 19 High School Ave., Meriden, Conn.

▲ For more details circle NED-258 E on enclosed inquiry slip ▲

GENERAL ELECTRIC

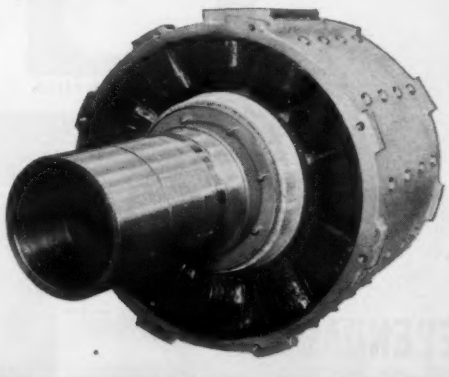


LOW VOLTAGE MOTORS

New General Electric low voltage, high current drive motors pack more power in smaller frame—are job tailored to meet torque and thermal requirements of a wide variety of battery powered traction, conveyor and lift applications. Typical uses: battery powered trucks, electric vehicles of all kinds; motors for hydraulic pumps, conveyors and lifts. ***Direct Current Motor & Generator Dept., General Electric Co., Erie, Pa.***

▲ For more details circle NED-260 E on enclosed inquiry slip ▲

GENERAL ELECTRIC



CUSTOM TAILORED D-C SPECIALS

Pancake-type motors, built-in motors, direct drives and permanent magnet fields are a few of many new General Electric special direct-current rotating machines being developed for modern applications. Designed for special functions, many of these G-E innovations offer important new opportunities for machinery manufacturers to improve product performance and reduce costs. ***Direct Current Motor and Generator Dept., General Electric Co., Erie, Pennsylvania.***

▲ For more details circle NED-261 E on enclosed inquiry slip ▲

QUALITY GENERAL ELECTRIC PRODUCTS shown on this page are typical of many d-c specials being developed and built by General Electric to meet industry's dynamic requirements. Within the past 24 months, G.E. has developed ultra-slow-speed motors for gearless direct-drives, underwater propulsion motors and special-purpose contouring drives. Experience gained from these and other developments for more than half a century can be applied to your particular problem quickly and economically. Experienced G-E engineering and manufacturing personnel and modern plant facilities are available to handle—exclusively—the design and manufacture of your non-standard equipment often at a lower cost than standard components with costly modifications. 821-3

If you have a special drive problem, write Specialty D-c Section, Direct Current Motor and Generator Dept., Erie, Pa.

Progress Is Our Most Important Product

GENERAL ELECTRIC

▲ For more details circle NED-259 E on enclosed inquiry slip ▲

protected by Tropical's

COOLERANT!

Bright, non-staining Coolerant, easily brushed or rolled on commercial or industrial roofs, deflects up to 70% of the sun's radiant heat. It reduces below-roof heat up to 26°—you can feel the difference AT ONCE! Reduces air-conditioning load. Prevents summer dry-out, adds years to roof life. Increases winter heating efficiency. Anyone can apply it.

REPAIR AND INSULATE Tropical Coolerant Fibrated, in one easy brush application, weather proofs and creates a bright heat reflecting surface. Get the facts.

FREE! Complete details sent at once. Beat the heat this summer with Coolerant. Write now!

TROPICAL PAINT COMPANY
1124-1290 W. 70th, Cleveland 2, Ohio
HEAVY-DUTY MAINTENANCE PAINTS SINCE 1883 • SUBSIDIARY OF PARKER RUST PROOF COMPANY

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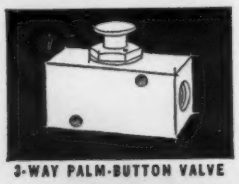
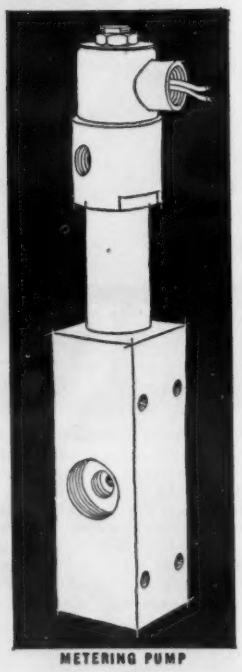

3-WAY PALM-BUTTON VALVE

FOR DEPENDABLE AIR CONTROL ASK FOR


METERING PUMP

airmatic

2-WAY BALL CAM

Whatever your needs—simple or complicated, straightforward or really difficult, in maintenance-free valves and metering pumps like these, or cylinders, combinations and all of the in-line accessories—it pays to ask for Airmatic.

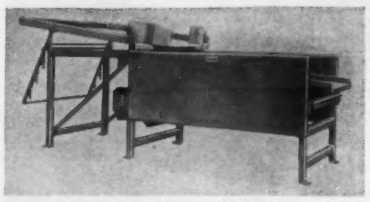
Our quality is tops. Our deliveries are prompt. Our engineering assistance is yours for the asking.

WRITE FOR OUR LATEST CATALOG

AIRMATIC VALVE, INC.
7313 Associate Ave., Cleveland 9, Ohio
Phone WOodbine 1-5320 - WESTERN UNION Airmatic Valve Inc. FAX Cleveland, Ohio

▲ For more details circle NED-263 E on enclosed inquiry slip ▲

ADJUSTABLE SCREEN
separates parts and tumbling media



Interchangeable 31 x 60-in. square mesh screens are used on the Model SS-4L screen separator for accurate separation of processed parts and tumbling media. Variable speed drive permits adjustment from 145 to 350 reciprocations per minute. Screen movement is variable from 0 to 1½ in. Self-contained machine has a controlled feed with a 3 to 7-degree adjustable slide angle. Driven by a ¾-hp, 220/440-v, three-phase motor, it features front loading and discharge. • **Rampe Mfg. Co.**, 14915 Woodworth Ave., Cleveland 10, Ohio.

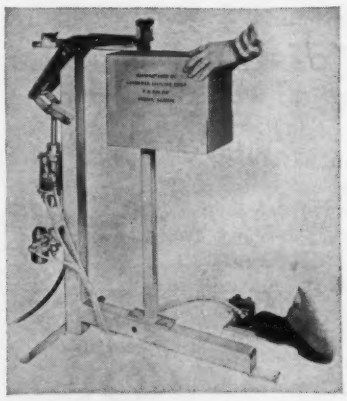
▲ For more details circle NED-264 E on enclosed inquiry slip ▲

TEFLON BUSHINGS
for through-hole wiring, insulation

Press-fit Teflon bushings provide mechanical and electrical protection for through-hole wiring which is either insulated or non-insulated. Bushings are inserted in metal chassis with special preparation and insertion tools. Installation is permanent. • **Sealectro Corp.**, 610 Fayette Ave., Mamaroneck, N. Y.

▲ For more details circle NED-265 E on enclosed inquiry slip ▲

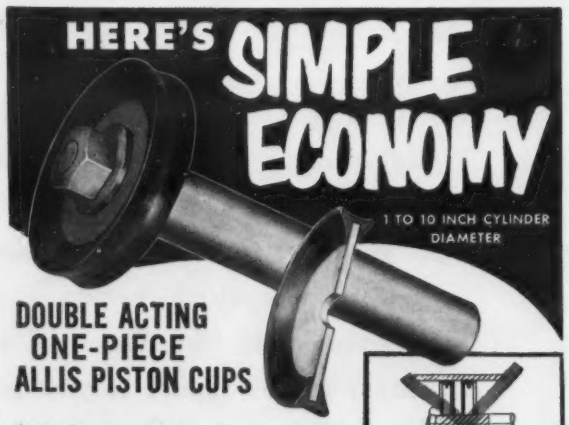
CARTON STAPLER
drives 200 clips per minute



Empty regular and end slotted containers, as well as overlap cartons are quickly set up by Model C-AC Post which drives King-Size clips at rate of 200 per minute or more. Only four clips are required to close the average carton. Air operated stapling head is actuated by foot valve. Unit weighs only 75 lb and can thus be moved about as needed. It can also be used for erecting telescope boxes, stapling Jiffy bags, setting up flat pieces of interior packaging, or stapling flat boards together. With combination arm and post, machine will set up various types and styles of cartons. • **Container Stapling Corp.**, 100 S. 27th St., Herrin, Ill.

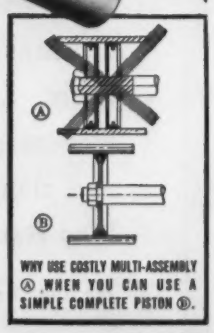
▲ For more details circle NED-266 E on enclosed inquiry slip ▲

HERE'S **SIMPLE ECONOMY**



DOUBLE ACTING ONE-PIECE ALLIS PISTON CUPS

A single unit piston and cup packing. Made of brass plated steel or solid brass metal disc. Specially compounded rubber is securely bonded to the metal. Designed for oil, air or water applications, lips are designed to maintain uniform pressure on cylinder walls insuring constant sealing action. Used in cylinders—feeds—filling machines, clamps or vises, hoists, pumps, valves, etc.



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BULLETIN 108

SINCE 1889
CHICAGO-ALLIS MFG. CORP.
Producers of CHICAGO BELTING - ALLIS RUBBER - ALLIS SEAL Products
130 NORTH GREEN STREET • CHICAGO 7, ILL.

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SMALL CAPACITY
Viking compact motor-mounted
PUMPS

Capacities ½, 1½ and 3 G.P.M.

This new line of Viking "656" motor-mounted pumps is expressly developed to meet the demand for compact, lightweight and integrally mounted units. They're designed for pressure lubrication, filtration, transferring of liquids up to 7500 S.S.U. and 500 P.S.I. All have the famous Viking "gear-within-a-gear" pumping principle.

- Steel fitted, bronze fitted, all bronze.
- Mechanical seals or conventional packing.
- Single phase 1750 R.P.M. motors—open or explosion proof ¼, ⅓, ½ or ¾ H.P.
- All sizes use same mounting flange bracket.

For more complete information, write for bulletin SP-509G.

VIKING PUMP COMPANY
Cedar Falls, Iowa, U.S.A.
In Canada, it's "ROTO-KING" PUMPS
See Our Catalog in Sweet's Plant Engineer File

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HEAVY PERFORATED PLATE

Mild Hot Rolled Steel

ROUND
SQUARE
SLOTTED

Thicknesses: 3/16" - 1/4" - 5/16" - 3/8"

National Perforating Corporation
42 Parker Street, Clinton, Massachusetts

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New Expanded Line!

TAPER-LOCK ROLLER CHAIN DRIVES

NO REBORING!
NO KEYSEATING!
NO WAITING!

Dodge Taper-Lock Sprockets and Dodge Roller Chain—now in Single Strand, Double Strand, Double Pitch Transmission Series, Double Pitch Conveyor Series, Plate Sprockets. And Standard Attachments!

This new expanded line gives you Taper-Lock advantages for most all of your sprocket needs. No reboring—no keyseating—no waiting! And Taper-Lock Bushings are reuseable—interchangeable. Write for bulletin.

DODGE MANUFACTURING CORPORATION
2100 Union Street, Mishawaka, Indiana

DODGE
of Mishawaka, Ind.

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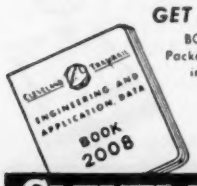
CRANES SAVE 15%... TRACTOR OVERHAUL TIME

Four 3-ton, 50-foot motorized Cleveland Tramrail cranes are saving 15% of the time usually required for overhauling tractors in a large efficient service shop. This not only helps expedite the work, which is pleasing to the customers, but also reduces costs. For big dividends it is hard to beat an investment in Cleveland Tramrail overhead materials handling equipment.



GET THIS BOOK! BOOK No. 2008 Packed with valuable information...

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6648 East 285th St., Wickliffe, O.

CLEVELAND TRAMRAIL

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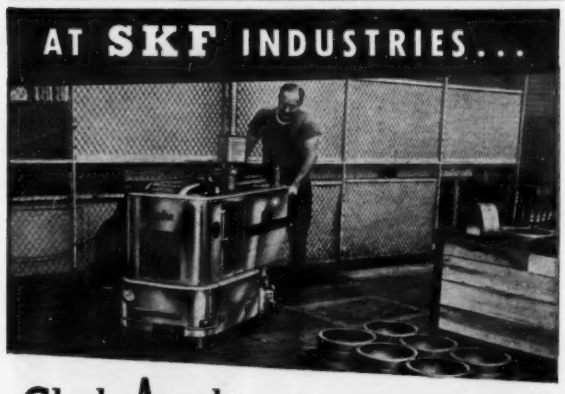
AT SKF INDUSTRIES...



ClarkeAmatic *paid for itself, paid operators' wages and saved $7,000 MORE the first year!*

Write for full details on how Clarke-A-matic self-propelled floor maintainers slashed SKF's maintenance costs by permitting two men to do the work of seven — how it gets floors cleaner — how it can do the same for you.

THE BEST KNOWN NAME IN FLOOR MACHINES

POWER SWEEPERS • WET-DRY VACUUM CLEANERS • FLOOR MAINTAINERS • UPHOLSTERY SHAMPOOER-VACUUM

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Authorized Sales Representatives and Service Branches in Principal Cities
Distributed in Canada: G. H. Wood & Co. Limited, Box 34, Toronto 18, Ont.

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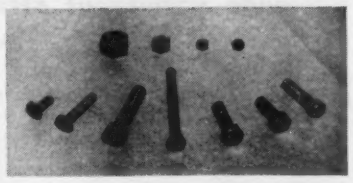
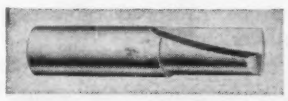
VINYL FASTENERS
are lightweight, inert, nonsparking



Fasteners made of B. F. Goodrich Geon vinyl for uses where corrosion is a problem are lightweight, inert, nontoxic, tasteless, weather resistant, nonaging, and nonsparking. Vinyl is mechanically stable, nonflammable, and will not support combustion. Fastener stock comprises fillister, hexagon and flat head bolts in sizes from 1/4 to 3/4 in., in 1/2 through 6-in. lengths, as well as hexagon nuts and round washers in 1/4 through 1-in. sizes. • **Industrial Plastic Fabricators, Inc.**, Endicott Street, Norwood, Mass.

▲ For more details circle NED-274 E on enclosed inquiry slip ▲

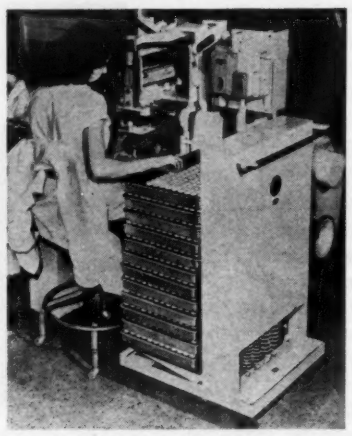
STUB ROUTER
is single flute, solid carbide tool



Extremely rigid because of its short length, Series 1546 Stub Router is a single flute, straight shank, solid carbide, single end tool for right hand cutting. Cutting diameter is kept to tolerance of +0.000, −0.003 in. Tool is recommended for routing glass, epoxy materials, Fiberglas, phenolics, Bakelite and other difficult, abrasive materials, including printed circuit boards. Nine sizes have diameters from 1/16 to 1/2 in. and over-all lengths from 1 to 1 1/2 in. • **Atrax Co.**, 240 Day St., Newington 11, Conn.

▲ For more details circle NED-275 E on enclosed inquiry slip ▲

LEVELING WORK POSITIONER
materials accessible from three sides



Adjustable calibrated spring mechanism of the AMF Lowerator self-leveling work positioner automatically positions material in full or partly empty boxes or trays at a convenient work level. Material is accessible from three sides. With the working-dispensing level always maintained, production is not interrupted and is often speeded. Cantilever type positioner has a capacity up to 800 lb. Storage space for empty tote boxes or trays is provided under the platform as their contents are removed. • **American Machine & Foundry Co.**, Lowerator Div., 261 Madison Ave., New York 16, N. Y.

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VERSATILE NEW AIRETOOL AUTOMATIC SCREWDRIVER AND NUTSETTER SPEEDS PRODUCTION AND CUTS COSTS

• Available in two air-driven models that quickly and conveniently convert from screwdriver to nutsetter. Each model features fast, easy, automatic push-starting for increased production and lower operating costs. Models with either adjustable or positive clutch for operation at 1100 or 3000 rpm. For complete information on these important new products in the complete line of Airetool pneumatic production tools, write today for Bulletins.

AIRETOOL
MANUFACTURING COMPANY
SPRINGFIELD, OHIO

REPRESENTATIVES in principal cities of U. S. A., Canada, Mexico, South America, England, Europe, Puerto Rico, Italy, Japan, Hawaii.
EUROPEAN PLANT: Vlaardingen, The Netherlands.
CANADIAN PLANT: Brantford, Ontario.

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LEGAL FOR TRADE

Why IS THE NEW DILLON MODEL P SCALE SO DIFFERENT?

Because it's OFFICIALLY SEALED by the Los Angeles County Bureau of Weights and Measures prior to shipment! Absolute assurance that the unit you buy meets the acceptance tolerance of the United States Bureau of Standards for sealable scales as set forth in Section T.2.2 of Handbook 44. These same regulations are followed by all bureaus of weights and measures. Thus, if re-sealing is felt to be necessary in another state, no special problems are involved. Accuracy is within *1/10 of 1% of full range!*

8 different capacities: 0-250, 0-500, 0-750, 0-1000, 0-2500, 0-5000, 0-7500, 0-10,000 lbs. Large, 16" diameter dial. Tare loads instantly canceled out by quick-set knob. Has heavy duty ball bearing swivel hook, sealed mechanism, strong plastic crystal over dial. Shock-proof and fully dampened against vibration. Temperature compensated. Exceptionally rugged. Truly America's *finest*, automatic suspension scale – yet priced LOW to suit the average shop budget!

COSTS YOU NOTHING TO INVESTIGATE. WRITE FOR PROFUSELY ILLUSTRATED BROCHURE AND FULL COLOR PICTURE. W70

W.C. Dillon & CO., INC. 14578NE Keswick St. Van Nuys 1, Calif.

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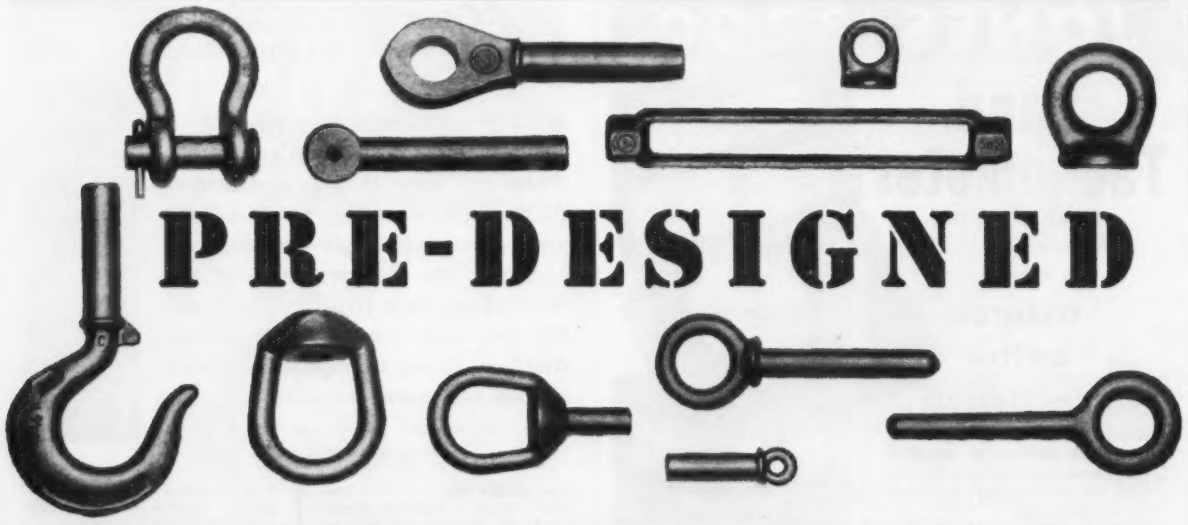
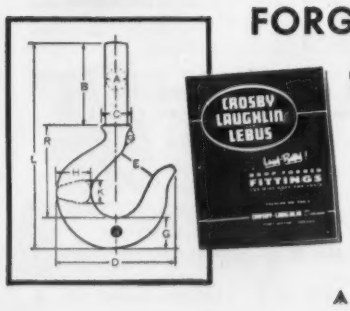


PRE-DESIGNED



FORGED FITTINGS READY FOR INSTALLATION
CONSISTENT QUALITY—NO REJECTS

Full line catalog with complete engineering data available from your distributor.

CROSBY-LAUGHLIN *Division*
FT. WAYNE, INDIANA

INDUSTRIAL DISTRIBUTORS — SERVING INDUSTRY ECONOMICALLY — THE RIGHT HAND OF PRODUCTION

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FOR THE BIG SHAKE*

"World's Quietest Vibrators"

hopper cars
massive bunkers
large bins
silos
chutes
shake-outs

MOVES, FEEDS, SIFTS
sand
clay
coal
ore
other materials

VIBROLATOR®

VIBRATION INDUCERS

*VIBROLATOR CCVP-3000, the 6600-lb. impact vibrator — or one of its three smaller brothers — IS GUARANTEED TO DO YOUR JOB OR YOUR MONEY BACK.

Order from your distributor today, or write for complete catalog.

MARTIN ENGINEERING COMPANY
Largest Producer of Rotary Vibrators
155 Nedlow Street, Neponset, Illinois

® VIBROLATOR is Martin Engineering's registered trade mark for vibration inducers and vibrator accessories.

For more details circle NED-279 E on enclosed inquiry slip

NEW
URETHANE WHEELS OF DU PONT ADIPRENE® OUTLAST RUBBER 5 TO 1

Here's an entirely new kind of resilient material for industrial wheels . . . ADIPRENE L, a urethane elastomer made possible by Du Pont research.

Solid tires, caster and pallet wheels made from this new Du Pont elastomer carry far heavier loads than conventional rubber wheels, yet are resilient, non-marring. They resist oils, mild acids and alkalies, temperature extremes, weathering and aging.

And most important, ADIPRENE L wheels outlast conventional rubber wheels by many times. Their resistance to abrasion, cutting, chipping and abuse is outstanding. In one plant, they outlasted rubber eight times. In another, where rubber wheels usually lasted only a few days, they were still in good condition after *six months.* Four- and five-fold increases in service life are common.

Send the coupon today for complete information.

E. I. du Pont de Nemours & Co. (Inc.)
Elastomer Chemicals Department NED-5
Wilmington 98, Delaware
☐ I would like to know more about ADIPRENE L industrial wheels. Please send literature and list of manufacturers.
☐ I am particularly interested in the following types of wheels _____
☐ Other information _____
Name _____
Firm _____
Address _____
City _____ State _____

DU PONT SYNTHETIC RUBBER
NEOPRENE HYPALON® VITON® ADIPRENE®

Better Things for Better Living . . . *through Chemistry*

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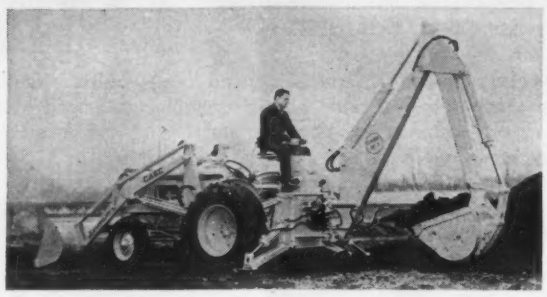
WHEELED TRACTOR
versatile unit offered with wide variety of attachments

Primarily designed for use as a 2500-lb capacity loader and 3000-lb capacity backhoe, the Model W-3 gasoline-powered wheel tractor also uses various pieces of in-



terchangeable equipment. A crane boom, dozer, all-purpose blade, log and pallet forks, scarifier-scraper, post hole digger, and cutter-bar or rotary mower are options. The 52 hp, high torque, overhead valve engine has an 11-in. diameter master clutch.

Hydraulic torque converter drive provides high power at all working speeds, besides automatically adjusting travel speeds to varying loads. Lockout lever permits shifting from torque converter to direct drive while in motion. Synchronized shuttle transmission allows smooth shifting from forward to reverse and back again without clashing gears. Tractor is equipped with 15-cu ft loader bucket. Its backhoe digs to a depth of 14 ft and reaches 20 ft. • J. I. Case Co., Racine, Wis.

For more details circle NED-281 E on enclosed inquiry slip

GUIDE LINE LIGHT
casts up to 48 marking shadows

Mounting fixtures for multiple installation of as many as six Carter guide line lights features a sliding bracket for each light. They cast up to 48 marking shadows for a single assembly operation, all readily adjustable. A baffle plate arrangement in each light prevents the projected patterns from overlapping. Lights can be arranged to outline squares or rectangles with shadow marks, or used to cast a single white line for marking dark materials. Photo shows four lights, each casting four parallel lines for lay-up of hollow core door assemblies. • Carter Products Co., Helmer Bldg., Grand Rapids 2, Mich.

For more details circle NED-282 E on enclosed inquiry slip

JONES #3200

Hand Tachometer

BROAD RANGE
50 — 5,000 R.P.M.
with stop button

assures better production

HIGHER OUTPUT — QUALITY CONTROL obtained by maintaining proper machine speeds. Also helps avoid breakdowns by detecting irregularities.

CARRY IT FROM JOB TO JOB and keep it handy for quick, accurate tests. Choice of readings in R.P.M., F.P.M., etc.

GUARANTEED ACCURACY—superior construction, trouble-free. Unaffected by moisture, temperatures, electric currents.

Many other Portable and Stationary Models, indicating Speeds between 50 R.P.M. and 50,000 R.P.M., are available.

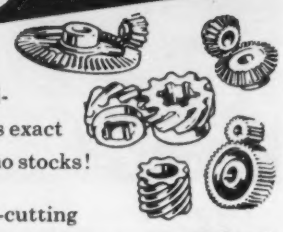
Write for catalog 147-D

JONES MOTROLA CORP.
Stamford, Conn.

For more details circle NED-283 E on enclosed inquiry slip

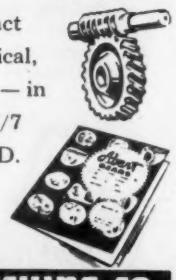
reliable ONE SOURCE FOR ALL YOUR GEAR NEEDS

Abart



Every Abart gear is precision-cut to the customer's exact specifications. We carry no stocks!

Abart has complete gear-cutting facilities to promptly supply the exact gear you want — spiral, bevel, helical, internal, worm, rack and sprocket — in any quantity, any material, from 5/7 D.P. to 96 D.P.—¼" P.D. to 18" P.D.



Send B/P or specs. Ask for quote.

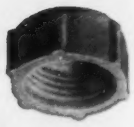
Write for Abart Gear Bulletin

ABART GEAR and MACHINE CO.
4831 WEST 16th STREET • CHICAGO 50, ILLINOIS

For more details circle NED-284 E on enclosed inquiry slip

this is
IMPACT STRENGTH

THIS IS PROTECTION!



S.S.White PLASTIC PLUGS AND CAPS

A 12-foot drop to a concrete floor . . . and both the threaded part and its S.S. White cap came through undamaged! All the impact absorbed *on the rim* of this tough acetate cap! Your customers will appreciate the sure protection of S.S. White plastic plugs and caps. They'll also like their easy, non-shredding removal. And *you* will like their quick installation and low cost — only pennies!

Two lines to choose from:

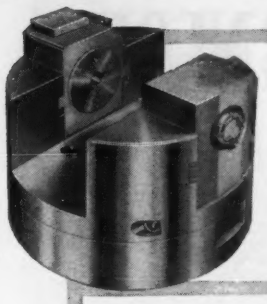
The quality line — of rigid acetate . . . tough, non-brittle, impervious to petroleum-base oils and greases, outstanding impact strength.

The economy line — of elasto-plastic vinylite . . . a "non-slip grip" for rapid installation and removal, a "stay-put fit."

WRITE FOR FREE BULLETIN *(P5708)*
and samples (please state size and type)

S.S.White PLASTICS DIVISION
DEPT. 7P 10 East 40th Street, New York 16, New York

For more details circle NED-285 E on enclosed inquiry slip



another major chuck development from SKINNER

A heavy-duty power chuck with jaws that freely index under full pressure. Indexing is simple, easy and fast. The operator can index manually without touching the work or releasing the pressure. Jaws are indexed by means of a lock screw and slide plate.

One or both jaws can be furnished with indexing mechanisms. As a result, you can index more positions and smaller index angles. There is no need to buy a new chuck for different indexing positions because index jaws or index components can be interchanged quickly and easily.

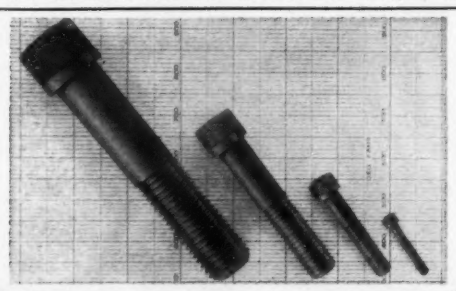
Available in body diameters from 12" through 36".

FOR MORE INFORMATION about this and other major chuck developments, contact your Skinner Representative or write us at Dept. 565.

SKINNERCHUCKS

THE CREST OF QUALITY — THE SKINNER CHUCK COMPANY • NEW BRITAIN, CONNECTICUT

▲ For more details circle NED-286 E on enclosed inquiry slip ▲



Dimensionally Controlled Heat Treatment

gives Mac-it screws maximum holding power

End-use requirement is an important factor in determining heat treatment specifications for Mac-it alloy steel screws. While physical dimensions are a prime factor, the proper combination of strength, toughness, ductility and resistance to shock and vibration must be achieved if the correct torque-tension—or holding power—is to meet your exact requirements.

Mac-it metallurgists determine a heat treating cycle that takes into consideration material, size *and* end use. This combination-of-three results in Mac-it screws with maximum holding power.

Every step in the manufacture of Mac-it screws is followed with care by specialists who know what you want—and want you to have it. That's why Mac-its *hold tight in a tight place!*

Mac-it

NEW SPECIFICATION SHEET listing new 1960 Series Socket Screw Industry Dimension Standards. Write for your *free* copy.
Mac-it Parts Co., Dept. 24, Lancaster, Pa.

MAC-IT ALLOY STEEL SCREWS

▲ For more details circle NED-287 E on enclosed inquiry slip ▲

NEW!

Rapisteel® slotted angle

* more design flexibility
* greater structural strength
* superior galvanized finish

Save time, cut materials and construction costs with Rapisteel by Rapistan. New design builds stronger structures faster — lets you erect storage racks, work benches, mezzanines, dollies, electrical panel boards — any construction idea you have. Completely re-usable, lifetime resistance to corrosion.

RAPISTEEL CONSTRUCTION IDEA MANUALS — FREE!
Write today for these new, illustrated Rapisteel construction guide books

Rapistan® slotted angle

The RAPIDS-STANDARD CO., Inc.
Dealer Products
764 Rapistan Building
Grand Rapids 2, Michigan

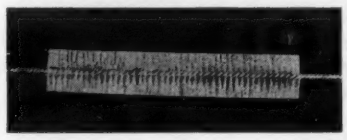
▲ For more details circle NED-288 E on enclosed inquiry slip ▲

COLD TEMPERATURE GLOVES
protect hands to absolute zero

Hands of workers involved in handling liquids and materials at temperatures approaching absolute zero are protected by line of FotiAire gloves. Worker can handle without harm or discomfort any item with cold intensity equivalent to liquid nitrogen while wearing the gloves. Leather, specially tanned for extreme cold, remains soft and does not crack. FotiAire gloves and aluminized asbestos covering are also available for handling metal parts heated to 1200° F without discomfort. A third rubber-covered glove is offered for handling liquids at boiling temperatures. • **J. M. Rubin & Sons**, Gloversville, N. Y.

▲ For more details circle NED-289 E on enclosed inquiry slip ▲

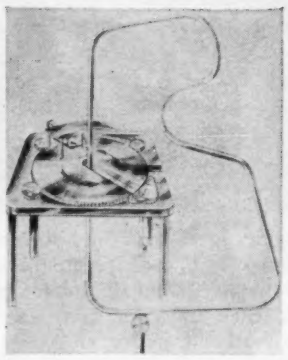
STATIC ELIMINATORS
brushes ground static electricity



Static charges as high as 45,000 v are handled by static electricity eliminator brushes which attach to machines, conveyors, or other equipment. Thousands of fine brass wire bristles interwoven between heavy copper wires gather static electricity and lead it away to a convenient ground. Brushes are suited for use under gas, dust, flammable vapor, and gaseous fume conditions and require no maintenance. • **Western Brush Co.**, 215 S. Western Ave., Chicago 12, Ill.

▲ For more details circle NED-290 E on enclosed inquiry slip ▲

ORBITING BEAM WELDER
makes uniform circumferential welds



Circumferential type welds on parts which cannot be rotated are readily joined with this Beamatron orbiting electron-beam welding gun. Easily adapted to dry box welders or to vacuum chambers, it can be used to loop or butt weld long sections of heat sensitive or reactive metal tubing. It can also be used for annealing or heat cleaning long sections. Slot in orbiting gun holder allows it to be inserted over tubing, even in closed loops. Gun moves around the part. The small, electrostatically-focused gun is electrically fed from a brush and stator assembly which does not interfere with work. • **High Vacuum Equipment Corp.**, 2 Churchill Rd., Hingham, Mass.

▲ For more details circle NED-291 E on enclosed inquiry slip ▲

FASTER HANDLING for all small parts

Rapistan® PRESS-VEYORS

Call on Rapistan for the most efficient equipment to handle any type of mass-produced machine parts, forgings, stampings, light or heavy, any shape, any size, any temperature. Press-Veyors work at steep inclines in close quarters, easily portable, thoroughly dependable. Wide range of Press-Veyor sizes and belt materials. Ideal for press room work and many special problem applications. Magnetic models also available.

Write for illustrated reports of tough handling jobs solved by Rapistan Press-Veyors.

Rapistan® conveying equipment

The RAPIDS-STANDARD CO., Inc.
743 Rapistan Building, Grand Rapids 2, Michigan

▲ For more details circle NED-292 E on enclosed inquiry slip ▲

FOR INDUSTRY OR HOME-CRAFT 8" TILT ARBOR SAW • BUY DIRECT FROM FACTORY

NOW $14.85 WAS $29.95

COMPLETE AS SHOWN—LESS BLADE

5/8" NEW DEPARTURE BALL BEARING SPINDLE PRECISION GROUND CAST IRON TABLE

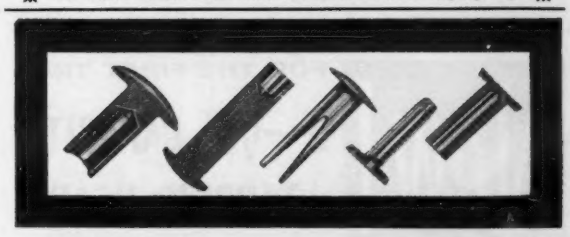
Ideal for light factory work — excellent for the home workshop — that's the new Model 590B 8" TILT ARBOR SAW. Over 300,000 sold already! Does everything same as saws costing 4 times as much — cross cuts, rips, bevels, mitres, dadoes, cuts compound angles. Adjustable depth of cut: 0" to 2¼". Blade tilts to 45°. Heavy duty all cast iron and steel construction. Precision ground cast iron table. Sealed NEW DEPARTURE ball bearings never need lubrication. Price includes massive cast iron mitre gauge and patented motor drive that fits any motor. All parts and labor guaranteed 10 years.

SPECIAL BARGAIN . . . This saw is our 1959 Model — brand new — shipped in factory sealed cartons. Sold and guaranteed from factory to you at fantastically low price.

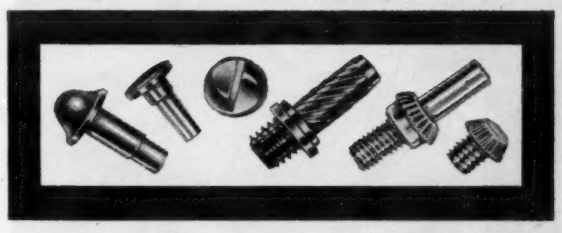
MONEY BACK GUARANTEE . . . This saw and parts are guaranteed 10 years! Try it for 10 days. If not completely delighted — FOR ANY REASON — return for immediate refund. Order Model 590B. *SENT EXPRESS COLLECT—Send check or M.O. $3.00 deposits on C.O.D.'s • Open account to rated firms*

AMERICAN MACHINE & TOOL CO.
ROYERSFORD 30, PA.
Our 30th Year Manufacturing Quality Power Tools
Pennsylvania residents add 4% sales tax

▲ For more details circle NED-293 E on enclosed inquiry slip ▲



COST PREVENTION...NOT COST REDUCTION...IS THE EFFICIENT WAY TO LOW-COST ASSEMBLY



The 'in-place' cost of a fastener is what really counts to cost-conscious production men. By deciding on inexpensive Milford tubular rivets as a fastening method and installing them with Milford automatic rivet-setting machines, design and production engineers are eliminating costs at the initial production stage rather than later at the assembly line. Write for more information.

THE MILFORD RIVET & MACHINE CO.

MILFORD, CONN. • HATBORO, PENN. • ELYRIA, OHIO • AURORA, ILL. • NORWALK, CALIF.

▲ For more details circle NED-294 E on enclosed inquiry slip ▲

new! Rapistan® APC

pressure - sensing conveyor

ends carton pile-ups

Rapistan APC (adjustable pressure) conveyor reduces damaged cartons and contents by reducing line pressure to the practical mininum. In this photo, the conveyor belt is running, but pressure between cartons is so low that the balloons show almost no compression. The new, safe way to accumulate goods under power in processing, warehousing and shipping operations.

Write for new Bulletin 1200 Illustrating APC Conveyor.

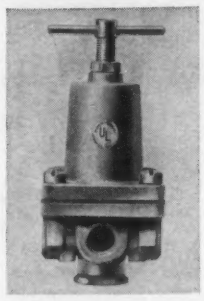
Rapistan® conveying equipment

The RAPIDS-STANDARD CO., Inc.
743 Rapistan Building, Grand Rapids 2, Michigan

▲ For more details circle NED-295 E on enclosed inquiry slip ▲

▲ For more details circle NED-296 E on enclosed inquiry slip ▲

PRESSURE REGULATORS for 2, 3, or 4-way regulation



Although identical externally, two low-cost pressure regulators in ¼-in. size only are different internally. Model 6 is UL-approved for LP-gas, whereas Model 7 is approved for acetylene gas service. Both can be used as 2, 3, or 4-way regulators, and both are constructed of die-cast zinc. Internal parts are brass, and diaphragm and disc are oil-resistant Buna-N rubber. • **Watts Regulator Co.**, Industrial Div., Embankment Road, Lawrence, Mass.

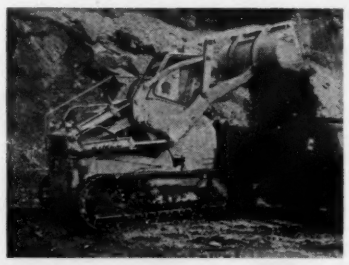
▲ For more details circle NED-298 E on enclosed inquiry slip ▲

REEL MEASURING TAPE automatic 50-ft model is improved

The Little Jay 50-ft automatic measuring tape has been redesigned with steel gears and steel casing to withstand severe outdoor and indoor working conditions. Model features improved refills, improved clip and hanger positioning, and clog-free movement. Heavy gage steel tape with easy-to-read numerals will not bind or kink. • **Foster McCulloch Co.**, 4190 Franklin Blvd., Eugene, Oreg.

▲ For more details circle NED-299 E on enclosed inquiry slip ▲

FRONT END LOADER bucket capacity is 20,000 lb



Unidrive transmission and Quadra-Torque provide the 100-hp Model 123 front end loader type crawler tractor with four speeds in both forward and reverse. It affords rapid lever gear and direction changes and a speed range of 0 to 6.5 mph through its single stage torque converter. Dual final drive places power independently to each track for spin-turns. The 74-in. machine has a bucket capacity of 20,000 lb at carry position and maximum breakout force of 25,000 lb with the bucket heeled on the ground. Sand and gravel bucket capacity has an SAE rating of 2¼ cu yd; the rock bucket has a 2-cu yd capacity (2¼ cu yd heaped). Loader arms, main frame, final drive, and centerhousing are cast steel. • **Eimco Corp.**, Box 300, Salt Lake City 4, Utah.

▲ For more details circle NED-300 E on enclosed inquiry slip ▲

P&S TURNLOK

Built to Take It

P&S TURNLOK wiring devices are designed to give trouble-free service no matter how tough the going gets. TURNLOK devices are available in 10 and 20 Amperes, 2-, 3-, and 4-wire types: receptacles, connectors and caps.

PERFORMANCE SPECIFIED

For information about P&S TURNLOK Line, write Dept. NED-56.

PASS & SEYMOUR, INC.
SYRACUSE 9, NEW YORK

60 E. 42nd St., New York 17, N.Y. 1440 N. Pulaski Rd., Chicago 51, Ill. In Canada: Renfrew Electric Co., Ltd., Toronto, Ontario

▲ For more details circle NED-302 E on enclosed inquiry slip ▲

New! FOR THE FIRST TIME 0—½" CAPACITY TAPPING HEAD

FOR JUST $63

Supreme VersaTAPPER

DRILL PRESS TAPPING ATTACHMENT

Check VersaTAPPER Features:—

- Capacity 0–½"
- Comes complete with tap chuck
- Ball bearing spindle
- Runs in oil
- Fits any drill press
- Fully guaranteed
- Installs in seconds

The new Supreme VersaTAPPER gives tremendous tapping versatility—at a price that is no higher than some hand tapping devices. VersaTAPPER's capacity range is from 0 to ½". VersaTAPPER fits any drill press. It can be installed or removed in seconds. Why not circle number on reply card and get full information on the VersaTAPPER. Available in two models:—No. 6100, with straight shank for chucking; No. 6200 with No. 2 Morse Taper Arbor for direct installation to drill press spindle. Each model—$63.00.

FROM THE MAKERS OF SUPREME BRAND CHUCKS

Supreme Products Corporation
2222 S. Calumet Avenue, Chicago 16, Illinois
DIVISION OF A•S•R PRODUCTS CORPORATION

▲ For more details circle NED-297 E on enclosed inquiry slip ▲

DO U BEND U BENDS?

Whether you bend "U" bends or other type bends from pipe, tubing, bus bar or structural metal, you'll bend it better, faster, more economically with Pedrick Production Benders.

PEDRICK TOOL AND MACHINE CO.
3640 N. Lawrence St., Phila. 40, Pa., Dept. 6.

"Why don't you send for the NEW PEDRICK LINE BULLETIN. Do it now."

BEND WITH PEDRICK

▲ For more details circle NED-301 E on enclosed inquiry slip ▲

TOUGH BUYERS DEMAND

REZNOR downflow heaters for high-ceiling applications

Where cranes, machinery, or inventory stacks require abnormally high placement of the heater, the tough buyer insists on a Reznor Downflow Heater. The Downflow projects heat to the area where it's needed, even from a height of 40 feet! Simple to install, too.

Available with aluminized or stainless steel heating elements, gas modulation, adjustable louvers and electric ignition. Write for catalog.

REZNOR Manufacturing Co., Dept. 41F, Mercer, Pa.

▲ For more details circle NED-303 E on enclosed inquiry slip ▲

Eastern PORTABLE MIXERS

especially designed for small batch processes

. . . offer precise mixing results with long-term cost savings

Eastern Portable Mixers give dependable, low-cost service in small batch processes. Where fixed mounted installations are not required, Eastern's Portables offer greater versatility, ease of handling, and long-term savings.

Speeds of 420, 1125, and 1725 R.P.M. rated from 1/20 to 3 H.P. are standard. Motors in all standard types can be supplied in open drip-proof, totally-enclosed, or explosion-proof construction.

Write for new Portable Mixer Bulletin 530-N.

EASTERN INDUSTRIES, INC.
MIXER DIVISION • NORWALK, CONN.

▲ For more details circle NED-304 E on enclosed inquiry slip ▲

"FLEXA-SWITCH"

Furnished in wheel or roller types. Axles are always on radial lines at any setting for positive travel. Automatic guard rails available.

Manual control is standard. Air or electric automatic control is available either remote or station operated. (Illustrated with 45° curve for 90° turn.)

2 WAY FLOW — Through and 45° right OR left.

• OR •

3 WAY FLOW — Through and 45° right AND left.

Various standard widths. Write for details.

METZGAR CONVEYOR CO.

MFRS. OF WHEEL & ROLLER GRAVITY & LIVE ROLLER CONVEYORS • POWER BELT CONVEYORS • SWITCHES • ACCESSORIES

416 Douglas St., N. W. GRAND RAPIDS 4, MICH.

▲ For more details circle NED-305 E on enclosed inquiry slip ▲

the most efficient way to solve tool and die steel problems . . .

. . . is this newly revised Matched Tool and Die Steel Manual. 188 pages, filled with cost-saving methods that will help you cut production costs and boost output.

• To get tools that provide the properties you need on each job . . .

• To see your new tool ideas become reality with the aid of the ingenious Tool Steel Selector . . .

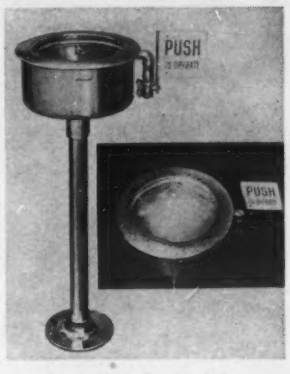
• To guide you to a more efficient production of tools . . .

SEND FOR YOUR COPY TODAY

The Carpenter Steel Company
118 W. Bern Street Reading, Pa.

▲ For more details circle NED-306 E on enclosed inquiry slip ▲

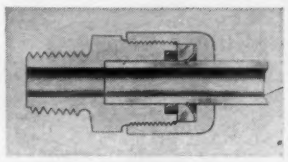
EYE WASH FOUNTAIN
emergency unit bathes facial area



Large stainless steel bowl of Series 7900 emergency eye and face wash fountain has six broad-coverage spray jets set in a 360-degree spray ring. Fountain blankets facial areas, bathing both face and eyes as a first aid treatment in case of accidental contamination by chemicals, caustics, fire, or other matter. Jets deliver 8 to 10 gpm at 10 psi. Units in both wall and pedestal models are shipped completely assembled. • Haws Drinking Faucet Co., Fourth & Page Streets, Berkeley 10, Calif.

▲ For more details circle NED-308 E on enclosed inquiry slip ▲

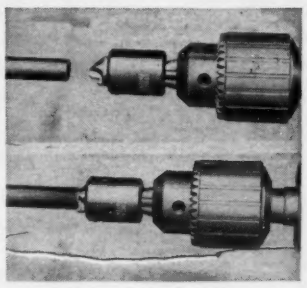
TUBE FITTING
joins copper, plastic, aluminum



Leakproof vacuum, gas, and fluid connections over a wide range of pressures and temperatures are obtained with the Fast-Tite tube fitting. Copper, plastic, or aluminum tubing inserted in the fitting in a twisting motion forms a seal with an embedded butyl O-ring. A serrated spring steel ring ahead of the O-ring bites into the outer tube surface for strength. There is no restriction to flow. Reusable fitting is made of nontoxic nylon, Cycolac, or polypropalene resins for use with 1/4 to 2-in. standard tubing, with male or female IPS threads. • D & G Plastics Co., Kent, Ohio.

▲ For more details circle NED-309 E on enclosed inquiry slip ▲

TUBE END FINISHING TOOL
chamfers both OD and ID, and faces



TuBurr cutting tool for use in screw, multiple spindle, and tube finishing machines will chamfer both the inside and outside diameters of the tube and face it all in one operation. Spindle travel toward the tube automatically centers the cone-shaped tool tip in the tube end. Continued spindle travel retracts the cone into the tool body, exposing the blade for cutting. Blades are interchangeable and available for any angle of chamfer. Capacity ranges up to 2 1/4-in. ID tubing on standard models. • Cogsdill Tool Products, Inc., 12980 W. Eight Mile Rd., Oak Park 37, Mich.

▲ For more details circle NED-310 E on enclosed inquiry slip ▲

NEW
FAS-LOK STORAGE RACK

- ONLY 2 BASIC PARTS . . . QUICK ERECTION
- NO WEDGES . . . NO BOLTS, NUTS, OR TOOLS REQUIRED
- SAFE . . . RUGGED . . . COMPLETELY ADJUSTABLE
- Easy access — front or rear.

FAS-LOK Racks can be quickly assembled into unlimited combinations of height, length, and shelf opening. Rigidly braced end frames, in standard heights from 5′ to 22′ 6″, have slots punched in uprights on 3″ centers. Horizontal runners have hookplates at each end. Each hookplate has two tapered ears which fit slots of upright (inset). To assemble FAS-LOK Racks, ears are set into the wedge-shaped slots on upright and a tap on horizontal runner drives ears down, seating them securely in a wedging action to produce a rock-solid rack. Can be used to store any material—Pallets, Skids, Rolls, Bulk storage, etc.

Horizontal runners available in lengths to 20 ft.; End Frames in depths from 2′ to 5′. End Frames made in capacities to 40,000 lbs. *Write for Catalog*

CHICAGO TRAMRAIL CORPORATION
1310 S. KOSTNER AVENUE · CHICAGO 23, ILLINOIS

▲ For more details circle NED-311 E on enclosed inquiry slip ▲

See what it means to have

STEEL GUARD Tires

the industrial pneumatics with built-in puncture-barrier

You're looking—up through heavy plate glass—at the kind of shop or yard debris that makes short work of ordinary lift-truck pneumatics. The hazards of the worst brickyard or foundry litter—jagged steel, bricks, nails or what have you—can be reduced to a minimum with STEEL GUARD Tires.

First place, each STEEL GUARD has its own built-in puncture-barrier of heavy, webbed steel cable—right up across the shoulders.

Then, there are the thick, rugged lugs of the STEEL GUARD. They make for a tread design that absorbs most any kind of punishment—provides extra-traction, too.

And remember—these STEEL GUARD Tires are industrial *pneumatics* which mean a smooth ride for driver and cargo — plus exceptional stability and flotation.

Wouldn't it pay you, then, to look into this new kind of pneumatic industrial—the great new STEEL GUARD by Goodyear. Check with your Goodyear Dealer—or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

STEEL GUARD TIRES BY

GOODYEAR

More tons are hauled on Goodyear Truck Tires than on any other kind

Steel Guard—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

▲ For more details circle NED-312 E on enclosed inquiry slip ▲

PRECISION PRODUCTION PROBLEMS?

Here's help from Bausch & Lomb in TOOL DESIGN, INSPECTION, FABRICATION, MEASURING, TESTING

TOOLMAKERS' MEASURING MICROSCOPE
Quickly measures transparent or opaque objects of any contour. Linear, accurate to 0.0001″; angular, to 1 minute of arc.

NEW SCRATCH-DEPTH GAGE
With this simple hand-held instrument you can measure the depth of any scratch to 0.0001″; with a range of 0″ to 0.015″.

NEW UNIVERSAL STAGING FIXTURE
Positions small parts for critical measurement with B&L Bench Comparator and Toolmakers' Microscope. Auxiliary base, with 7″ travel, increases range beyond that of measuring stage.

STEREOZOOM* MICROSCOPES
Magnified 3-D views of tiny parts. Dustproof, shockproof, can be mounted right in machine or fixture. Speeds assembly, inspection. Most complete line, widest field of view.

BENCH COMPARATOR
Exclusive understage illumination—no complex set-ups, no holding fixtures for most work. Magnified silhouettes, show errors instantly. Reads to 0.0001″ with optional micrometer stage.

OPTICAL AIDS CATALOG
Time-and-money-saving data on Surface Comparators, Industrial Magnifiers, Macroscopes, Micrometer Discs, Brinell Microscopes, Microscope Bodies, Wide Field Tubes, Shop Microscopes.

BAUSCH & LOMB

*TRADEMARK, BAUSCH & LOMB OPTICAL CO.

MAIL COUPON TODAY FOR VALUABLE DATA

BAUSCH & LOMB OPTICAL CO.
72705 Bausch St., Rochester 2, N. Y.
Please send literature on optical production aids checked below:
☐ Toolmakers' Microscope ☐ Scratch-Depth Gage ☐ Bench Comparator ☐ Optical Aids Catalog ☐ StereoZoom* Microscopes ☐ Universal Staging Fixture.

NAME .....
TITLE .....
COMPANY .....
ADDRESS .....
CITY ..... ZONE ..... STATE .....

▲ For more details circle NED-307 E on enclosed inquiry slip ▲

SAVE CONVEYOR BELTS!
with a STEPHENS-ADAMSON
BELT CLEANER

WRITE FOR BULLETIN 258

Check these features

- Inexpensive, but most effective belt cleaner ever developed.
- Removes wet, dry or sticky material from belt.
- Prevents material from being ground into belt.
- No messy dribble to be cleaned up.
- Will not injure belts or catch on splices.
- No moving parts—requires no drive.
- Easy to install and operate
- Adjustable — fits any size conveyor.

S-A
STANDARD PRODUCTS DIVISION
STEPHENS-ADAMSON MFG. CO.
12 RIDGEWAY AVENUE • AURORA, ILLINOIS
PLANTS LOCATED IN: LOS ANGELES, CALIFORNIA
CLARKSDALE, MISSISSIPPI • BELLEVILLE, ONTARIO

For more details circle NED-313 E on enclosed inquiry slip

IT'S A FACT
YOU CAN DO BETTER WITH
THE BUILT-IN QUALITY OF
DE-STA-CO
SPACING PRODUCTS

BECAUSE . . . Extra precision in materials, dies, manufacturing and finishing . . . extra convenience of DE-STA-CO packaging . . . top quality which pays off! You'll actually be money and quality ahead by specifying DE-STA-CO Spacing Products.

ARBOR SPACERS, SHIMS, SHOULDER-SCREW SPACERS

Arbor Spacers in complete range of sizes and thicknesses from .001" to .125", with keyway, special rolled finished steel; shims same but without keyway. Same high precision and quality in Shoulder-Screw Spacers for simplifying die adjustments. Spacing Collars, hardened and ground to close tolerance in many popular diameters, thicknesses from 1/8" to 3", edges chamfered.

FEELER STOCK (in coils and strips)

Made from tempered stock, rolled to close limits. 1/2" x 25' or 12" finished lengths, in thicknesses from .001" to .032". Major uses—precision fitting, checking clearances, inspection and production work.

SHIM STOCK

Steel or brass selected materials rolled to close limits, oiled, clean, flawless (entirely free from burrs). Rolls 6" x 120" (longest available) in thicknesses .001" to .032" in handy dispenser cartons. Sheets 6" x 12" in standard assortment packages of 12 gauges. Also packages of one thickness.

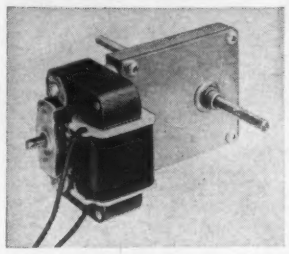
FOR MORE FACTS . . .
WRITE FOR COMPLETE BROCHURE AND PRICE LIST!

YOU CAN DEPEND ON DE·STA·CO

DETROIT STAMPING COMPANY
350 MIDLAND AVENUE
DETROIT 3, MICHIGAN
DE-STA-CO

For more details circle NED-314 E on enclosed inquiry slip

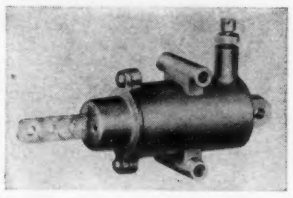
FRACTIONAL-HP GEAR MOTOR
output speeds from 1/2 to 300 rpm



Quiet operating Type WGM fractional - hp worm drive gear motor is suited for photocopy and other motorized business machines, revolving displays, appliances, vending machines, remote TV tuning, valves, and instruments. Unit has a two-pole, shaded-pole induction motor rated from 6 to 220 v, 50 or 60-cycle ac. Cooling fan is available. Enclosed, prelubricated gear reducer has output speeds from 1/2 to 300 rpm with torque to 50 lb-in. Output shaft, in 3/16, 1/4, 5/16, and 3/8-in. diameters, can be extended on either or both sides of gearbox. Solenoid brake, overload thermal protection, varnish impregnated stator, and stainless steel or plated shafts can be added. • **Molon Motor & Coil Corp.**, 3739 Industrial Ave., Rolling Meadows, Ill.

For more details circle NED-315 E on enclosed inquiry slip

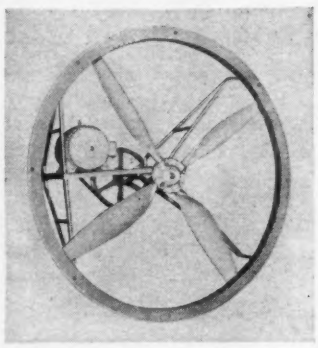
DASH POTS
offer retarding action



Piston rod travel of 1 5/16 in. provides these dash pots with a positive retarding action for any mechanical device. An adjustable needle valve affects the resistance exerted by the rod, offered with or without a return spring. Body is die cast zinc. • **nuArc Co.**, 4110 W. Grand Ave., Chicago 51, Ill.

For more details circle NED-316 E on enclosed inquiry slip

VENTILATING FANS
low-speed, high-volume types



Series of low-speed, high-volume propeller fans serves applications where large volumes of air must be moved with a single fan rather than with several smaller units. Sizes from 65 to 94 in. with belt, direct, or pulley drives are offered. The 94-in., 25-hp model moves 174,000 cfm of free air, or 157,000 cfm against 1/4-in. static pressure. Hubs and blades are aluminum alloy castings. Hubs are statically balanced, and all blades are balanced against a master blade and are interchangeable. • **Hartzell Propeller Fan Co.**, 1025 Roosevelt Ave., Piqua, Ohio.

For more details circle NED-317 E on enclosed inquiry slip

Best all-purpose cutting tools for you!

X-acto® KNIVES

Like to try an X-acto Knife? Send $1 (Special offer) for knife and asst. of blades. Catalog of X-acto Precision Hand Tools on request.

greater EFFICIENCY
Work area always in view. Fingers can't get in the way.

greater VERSATILITY
One handle for assorted blade styles.

greater COMFORT
Hold an X-acto like a pencil.

greater ECONOMY
Discard used blade; refill with any shape.

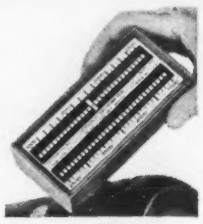
HANDICRAFT TOOLS, INC.
Division of X-ACTO, INC.
48-416 Van Dam St., L.I.C., 1, N.Y.

For more details circle NED-318 E on enclosed inquiry slip

MEASURE RPM

BY HAND
Centrifugal and Chronometric
HAND TACHOMETERS
All Ranges up to 100,000 RPM
Bulletin 1048

BY TOUCH
VIBRATING REED TACHOMETERS
Portable and Stationary Types
Bulletin 770

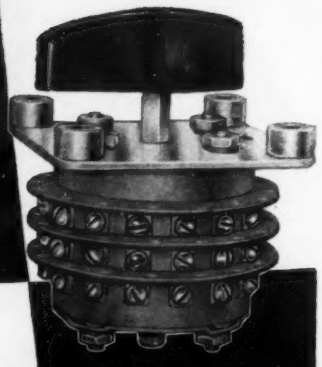


BY NEW HIGH INTENSITY STROBOSCOPE
"Industry's Seeing Eye"
Bulletin 780

HERMAN H. STICHT CO., INC. 27 PARK PLACE, NEW YORK 7, N. Y.

For more details circle NED-319 E on enclosed inquiry slip

TYPE JK
ROTARY SWITCH
manufactured in accordance with MIL-S-21604 and BuShips Drawing Number 815-1853013.



Sections and rotors molded of MAI-60 per MIL-M-14E.

ESCO Type JK rotary switch provides unlimited rotation in both directions.

Movement can be limited to any number of 16 positions.

Electrical rating: up to 5 amperes, 125 volts a-c.
Write for Bulletin No. 19

ESCO of WEYMOUTH
ELECTRO SWITCH CORP.
Weymouth (Boston 88), Massachusetts

For more details circle NED-320 E on enclosed inquiry slip

with . . .
SILASTIC® RTV
the Dow Corning Fluid Silicone Rubber That Vulcanizes at Room Temperature
make . . .

- FLEXIBLE MOLDS that quickly reproduce exact detail, strip easily from forms, withstand hot casting materials.
- PROTOTYPE RUBBER PARTS that are inexpensive, easy to form, heat-resistant . . . require no costly molds.

ALSO . . . CALK, POT, ENCAPSULATE, with Silastic RTV . . . get high electric strength and high shock-absorbency, resistance to severe environments.

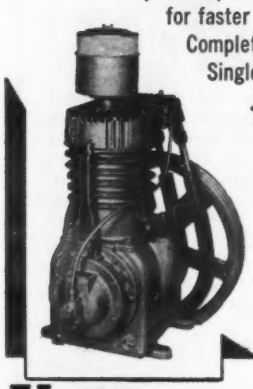
Write for details to Dept. 5405.

first in silicones
Dow Corning CORPORATION
MIDLAND, MICHIGAN

For more details circle NED-321 E on enclosed inquiry slip

air compressors

Kellogg-American compressors are engineered for **longer trouble-free life.** More delivered air power per kilowatt hour means lower operating cost. Warehouses and parts depots throughout the country for faster shipment and service. Complete size range—⅓ thru 20 H. P. Single and two-stage models.



The compressor is the HEART of your business. *Keep it ticking.*

WHAT ARE YOUR NEEDS? *For full details write to:*

Kellogg-American
DIVISION
SCAIFE COMPANY • PITTSBURGH 35, PA.

▲ For more details circle **NED-322 E** on enclosed inquiry slip ▲

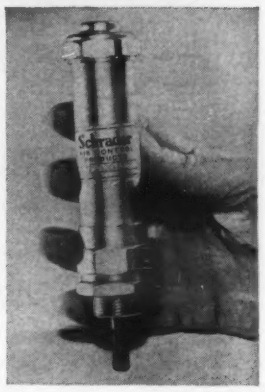
3 PRECISION TOOLS IN 1

Designed for close tolerance, low range tightening, this 3-way Apco Mossberg torque tool can be used as a vertical type wrench . . . or as a torque screw driver, with either slotted or recessed bits. Simple, quick changing of bits permits accurate measuring of tension for a wide variety of electrical, electronic, instrument assembly or repair work. High quality Apco workmanship includes thrust bearings to minimize friction. Easy-to-read white on black indicator dial. Available in 13 sizes for inch-gram, inch-ounce, and inch-pound readings. Socket head bits also available. Write for details.

APCO MOSSBERG COMPANY
161 Lamb Street, Attleboro, Mass.

▲ For more details circle **NED-323 E** on enclosed inquiry slip ▲

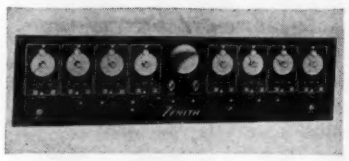
MIDGET AIR CYLINDERS for pressures up to 125 psi



Double-acting Midget air cylinders with 1-in. bores are intended for minimum space applications at air pressures up to 125 psi. Series of six models has stroke lengths of 1, 2, 3, 6, 9, and 12 in. Cylinders are suited for various light-duty and gang-type push, pull, or reciprocating applications in the operation of jigs and fixtures, or transfer and special purpose machines. They can be neck, angle-leg, or clevis-bolt mounted and actuated by hand, foot, pilot, cam, roller trip, or solenoid devices. • **Scovill Mfg. Co.,** A. Schrader's Son Div., 470 Vanderbilt Ave., Brooklyn 38, N. Y.

▲ For more details circle **NED-325 E** on enclosed inquiry slip ▲

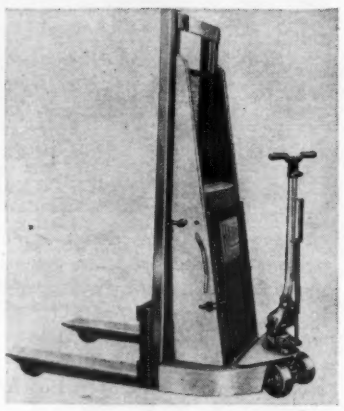
RESET TIMER PANEL controls eight sequential operations



Automatic control of eight sequential operations is provided by Model 8AZC multiunit reset timer panel which is also available as Model M2ZC for dual timing operations and Model MZC for single operations. Each timer is calibrated from 0 to 60 sec. Timing ranges up to 10 min can be supplied. Unit shown controls operations in a plastic vacuum molding machine. Each set of timers controls a complete operation. • **Zenith Electric Co.,** Dept. ND-5, 152 W. Walton St., Chicago 10, Ill.

▲ For more details circle **NED-326 E** on enclosed inquiry slip ▲

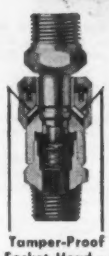
PORTABLE ELEVATOR has fifth wheel steering



Ease of mobility and maneuverability result from the addition of fifth wheel steering to Hy-Boy battery powered portable elevators. The optional handle is of the same type as is used on Weld-Bilt hand lift trucks. Use of the handle keeps the operator's feet away from wheels. A safety spring keeps it upright when released. • **West Bend Equipment Corp.,** Water Street, West Bend, Wis.

▲ For more details circle **NED-327 E** on enclosed inquiry slip ▲

ONE-WAY SHUT-OFF



Tamper-Proof Socket Head — with leak-proof, minimum wear, locking device.

- Quick connection and disconnection — as easy as plugging in your electric shaver.
- Instant automatic flow or shut-off.
- Factory assembled socket head cannot be readily damaged—or have component parts lost by casual tampering.
- Locking pins afford large area contact with Plug—reduces wear to a minimum.

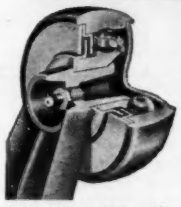
Write for Catalog — a ready reference when you want information on couplings in a hurry.

Representatives in Principal Cities ...See Yellow Pages

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 35, OHIO

▲ For more details circle **NED-329 E** on enclosed inquiry slip ▲

R-W 458 CHAIN CONVEYORS



R-W 458 trolleys offer many exclusive and important features . . . features that will pay off through improved service and trouble-free operation with a minimum of upkeep.

For the conveying of light loads, heavy loads or "tow cart" installation, R-W 458 Chain Conveyors provide the ideal method to speed-up production, lower operating costs and achieve a profit-improvement. R-W 458 Chain Conveyors are easy and economical to install, operate and maintain . . . may be added to existing systems. All components, while designed to meet industry standards, are manufactured to conform with R-W's strict quality control procedures that assure you of receiving dependable, long-life service and trouble-free operation. Write today for additional information . . . request your free copy of catalog No. A-570.

RICHARDS-WILCOX MFG. CO.
435 W. THIRD STREET • AURORA, ILLINOIS • Branches in Principal Cities

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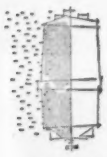
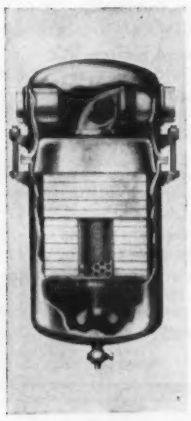


DOLLINGER DRY FILTER *Specialists for 39 years*

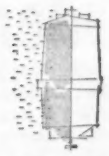
KEEP DIRT, MOISTURE FROM PNEUMATIC INSTRUMENTS



DOLLINGER STAYNEW FILTERS allow only clean dry air to pass into delicate apparatus. Offer peak efficiency at pressures to 125 psi . . . durable, lightweight . . . swing bolts provide ease of cleaning without breaking connection. Available in pipe sizes from ¼" to 4". Write for Composite Catalog. Dollinger Corporation, 49 Centre Park, Rochester 3, New York.

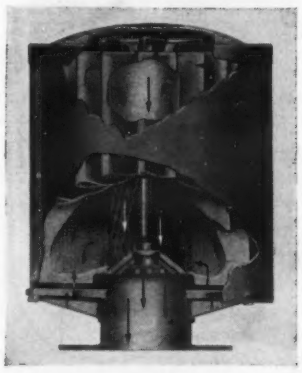
PROTECTOMOTOR STAYNEW **DOLLINGER** FILTERS

▲ For more details circle **NED-324 E** on enclosed inquiry slip ▲



DOLLINGER DRY FILTER *Specialists for 39 years*

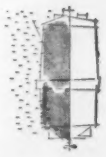
Filters for internal combustion engines and compressors



DOLLINGER STAYNEW FILTERS are ideal for engines and compressors. Utilizes best filtering medium possible . . . offers greatest active filtering area for available space . . . maintains low velocity, low resistance to flow. Easy to install, simple to clean and inspect. Offered in capacities from 60 to 10,000 C.F.M. Write for Composite Catalog. Dollinger Corporation, 49 Centre Park, Rochester 3, New York.

PROTECTOMOTOR STAYNEW **DOLLINGER** FILTERS

▲ For more details circle **NED-328 E** on enclosed inquiry slip ▲



DOLLINGER DRY FILTER *Specialists for 39 years*

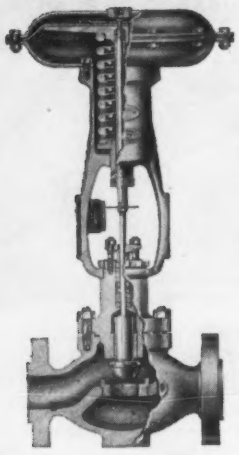
LOW PRESSURE PIPE LINE FILTERS

DOLLINGER STAYNEW LOW PRESSURE FILTERS are specifically designed to protect the delicate orifices of precise air-operated instruments from clogging caused by dirt and oil. Features highly-efficient (5-6 microns) filtering . . . radial fin, single bolt construction . . . lightweight die cast aluminum housing. Several models available for up to 150 p.s.i. Consult your local Dollinger representative or write for Data Sheet CPHB-4D. Dollinger Corporation, 49 Centre Park, Rochester 3, New York.

PROTECTOMOTOR STAYNEW **DOLLINGER** FILTERS

▲ For more details circle **NED-331 E** on enclosed inquiry slip ▲

New 20000 Series
Single Seat Control Valve



With the introduction of this new line of solid-cast control valves the advantages of single seat design become available for a substantially wider scope of application, from the simple to the most severe. Consider these premium features built in as standard, available to you at no extra cost.

- **HIGH CAPACITY**
  Top guiding, unrestricted seat ring area, body and plug contours provide greater capacity than most top-and-bottom-guided double seated valves of comparable sizes.
- **HIGH PRESSURES AND PRESSURE DROPS**
  High capacity is attained with minimum seat ring areas, resulting in less unbalance force, permitting higher pressure drops.
- **WIDE SELECTION OF REDUCED CAPACITY TRIM**
  For those applications where velocity due to high drop is a consideration (or where future requirements for larger capacity are a factor) a wide selection of reduced capacity trim is available — and interchangeable in comparable valve sizes and ratings.

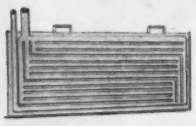
SPECIFICATIONS

Sizes: ¾", 1", 1½", 2", 3", 4", 6", 8", 10"
Ratings: Steel — 150, 300, 400, 600, 900, 1500, 2500 lb. ASA
Iron — Class 125 or 250 ASA
Connections: Screwed ends — ¾"-2" in 600 lb. and Class 250 rating. Flanged — ¾"-10". Welding ends available on steel valves. Face-to-face dimension is I.S.A. standard.

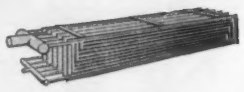
MASON-NEILAN
Division of Worthington Corporation
69 NAHATAN STREET, NORWOOD, MASS., U.S.A. MN 0-4
Sales Offices or Distributors in Principal Cities in United States and Abroad
In Canada: Worthington (Canada) Ltd., Mason-Neilan Division

▲ For more details circle **NED-332 E** on enclosed inquiry slip ▲

PLATECOIL®



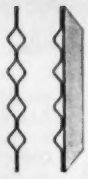
Standard PLATECOIL units



FACTORY-ASSEMBLED PLATECOIL banks

In factory-fabricated styles to fit your needs

ROLLED to specified diameters



SINGLE EMBOSSED OR DOUBLE EMBOSSED

The PLATECOIL units above are just a few of the many standard and special units that are effecting savings and better performance in a wide range of tank and process heating and cooling applications. If you are looking for faster heat up, more heat transfer in less space, savings on installation or maintenance or an answer to other heat transfer problems, it will pay you to investigate PLATECOIL.

Send for free BULLETIN P5Z for more information.

PLATECOIL® DIVISION
TRANTER MANUFACTURING, Inc.
LANSING 9, MICHIGAN

▲ For more details circle **NED-333 E** on enclosed inquiry slip ▲

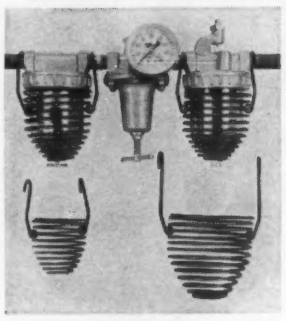
WAGNER
Dry-Type
General Purpose
Transformers

These small size, totally enclosed transformers, filled with epoxy compound which insulates and kills sound, can be used anywhere to improve voltage regulation . . . even in quiet areas in offices and hospitals. Their designation: Type AE Single Phase, 1 to 10 Kva. Install indoors or out in any position, at any angle. Built to ASA and NEMA standards. Contact the nearest Wagner branch or distributor for full information.

Wagner Electric Corporation
6433 PLYMOUTH AVE., ST. LOUIS 33, MO., U.S.A. WT59-16A

▲ For more details circle **NED-334 E** on enclosed inquiry slip ▲

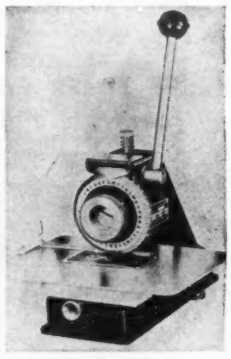
FILTER BOWL PROTECTOR
restrains exploding particles



Wire cage type Guard-All protector for plastic bowls of pneumatic filters and lubricators restrains flying particles in case bowl explodes because of fatigue, accident, shock load, or chemical attack. Guard is attached to pipe line by hooks which are adjustable for proper height. Three guard sizes fit all bowls from ¼ through 1-in. pipe size. • **C. W. Morris Co.,** 10628 Cloverdale, Detroit 4, Mich.

▲ For more details circle **NED-335 E** on enclosed inquiry slip ▲

NAMEPLATE PRESS
stamps individual letters, numbers



Identification plates and tags, toolroom tags, nameplate badges, and storage bin tags are among the products made on the compact Ident-O-Matic nameplate press. It stamps individual letters and numbers and is easily operated. • **Identification Systems Co.,** 246 Fifth Ave., New York 16, N. Y.

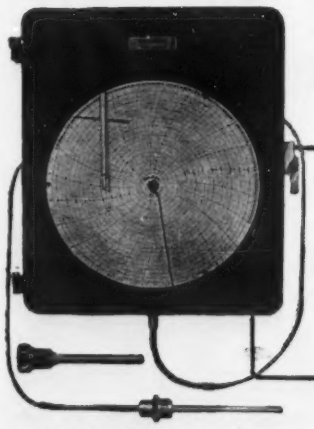
▲ For more details circle **NED-336 E** on enclosed inquiry slip ▲

ROTOR BALANCING SERVICE
for 0.5 gram to 100-lb rotors

Series 700 electronic balancers are used in a precision rotor balancing service, offered on production quantities and for prototype lots and experimental work. Experienced operators and engineering personnel analyze unusual vibration problems and consult with clients on related design factors. Secret proprietary items are protected from disclosure. Electronic equipment measures rotor displacements of less than 0.000001 in. at any speed from 1000 to 200,000 rpm. Rotors weighing 0.5 gram to 100 lb are handled in standard vibration mounts. Facilities for making special fixtures are available. • **M. Ten Bosch, Inc.,** 80 Wheeler Ave., Pleasantville, N. Y.

▲ For more details circle **NED-337 E** on enclosed inquiry slip ▲

PALMER MERCURY ACTUATED recorders



Into this modern Mercury Actuated Recorder has gone all the skill of Palmer master craftsmen.

Readings are clearer, smoother and more precise than ever thought possible. In fact readings are so amazingly improved that maintenance is never needed under normal uses.

Recording Thermometers feature twelve inch die-cast aluminum case with black wrinkle or white satin finish. Single or multiple pen construction. Electric or spring wound clock. 24 hour or 7 Day Revolution. Flexible Armor and bulb of stainless steel. Ranges —40 to 1000°F. or Equivalent in °C.

Send for Bulletin No. 45

Consult your Classified Directory

PALMER THERMOMETERS, INC.
Mfrs. of Industrial Laboratory, Recording and Dial Thermometers
Cincinnati 12, O.

▲ For more details circle **NED-338 E** on enclosed inquiry slip ▲

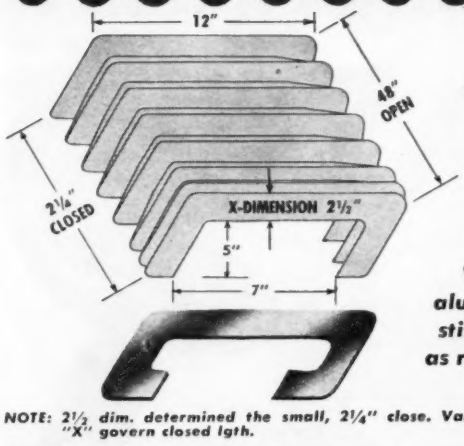
GEAR PROBLEMS?
Check with- FAIRFIELD!

If you use gears in the product you make, we believe it will pay you, as it has others, to become acquainted with FAIRFIELD — the place where fine gears are produced to meet your specifications EFFICIENTLY, ECONOMICALLY! Fairfield's production facilities are unexcelled for making all kinds of accurate, automotive type gears such as are now finding wide use in all branches of industry: for tractors, trucks, and buses . . . for agricultural implements . . . for construction machinery . . . for machine tools. Ask for latest literature describing Fairfield's facilities. Your inquiry will receive prompt attention.

FAIRFIELD
Manufacturing Co., Inc.
2335 S. Concord Road
LAFAYETTE, INDIANA

▲ For more details circle **NED-339 E** on enclosed inquiry slip ▲

PROTECTED



W A Y S
With aluminum stiffeners as required

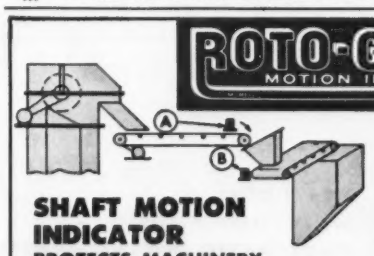
NOTE: 2½ dim. determined the small, 2¼" close. Variations in "X" govern closed lgth.

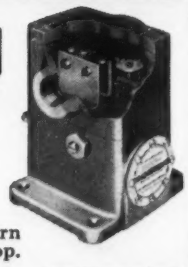
GORTITE, new, pliable way-protectors for . . . milling machines, grinders, boring bars and other machine tools are fabricated to order from fiberglas and new neoprene-base materials. Ask for new bulletin GW-100. A&A MFG. COMPANY INC., 712 S. 12th St., Milwaukee 4 Wis.

BOOTS . . . SLEEVES . . . WAY-PROTECTORS

▲ For more details circle **NED-340 E** on enclosed inquiry slip ▲

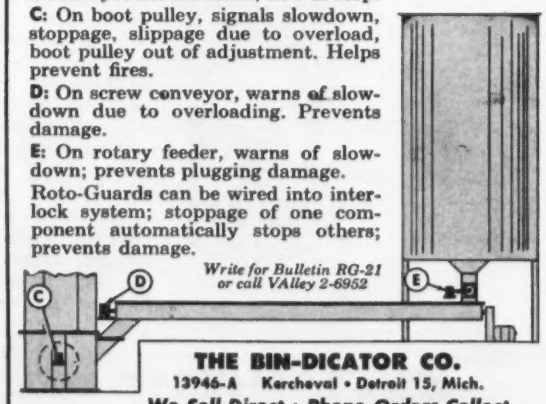
ROTO-GUARD
MOTION INDICATOR





SHAFT MOTION INDICATOR
PROTECTS MACHINERY BY INDICATING STOPPAGE DUE TO OVERLOADING OR MALFUNCTION

A and B: On end return idlers, warn if conveyor should break, slow or stop.
C: On boot pulley, signals slowdown, stoppage, slippage due to overload, boot pulley out of adjustment. Helps prevent fires.
D: On screw conveyor, warns of slowdown due to overloading. Prevents damage.
E: On rotary feeder, warns of slowdown; prevents plugging damage.
Roto-Guards can be wired into interlock system; stoppage of one component automatically stops others; prevents damage.

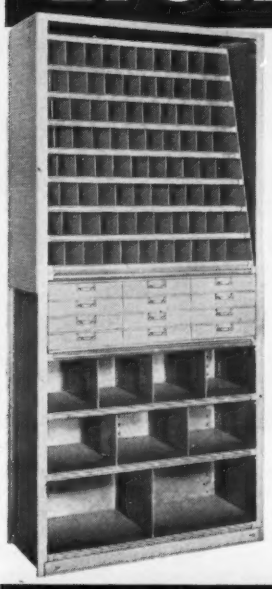


Write for Bulletin RG-21 or call VAlley 2-6952

THE BIN-DICATOR CO.
13946-A Kercheval • Detroit 15, Mich.
We Sell Direct • Phone Orders Collect

▲ For more details circle **NED-341 E** on enclosed inquiry slip ▲

LYON® TOOL SHELVING



COMPLETE RANGE OF TOOL STORAGE UNITS MEETS EVERY REQUIREMENT

The illustration shows one of many combinations of shelving and storage inserts you can custom-build with standard Lyon units.

Shelving sections are 3' wide, 1½' deep, 7' high. Shelf dividers are adjustable every inch. No nuts, bolts or tools. Inserts include pigeon hole, sloping front, drawer case and swinging panel units. Finish, gray baked-on enamel.

Write for free 92-page Lyon Steel Equipment Catalog.

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
Dealers and Branches in All Principal Cities

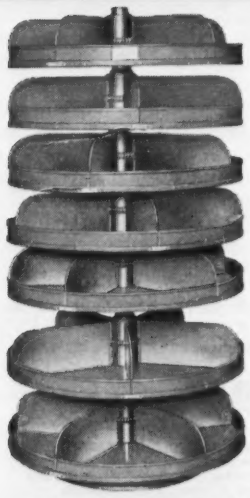
▲ For more details circle NED-342 E on enclosed inquiry slip ▲

Hytrol engineers start with the problem — a study of your facilities as related to the conveying job to be done. More often than not, your low-cost solution is found in a *unit or combination of standard units* in the Hytrol catalog: Powered belt models, horizontal and inclined, floor-to-floor models, portable stackers, boosters, wheel and roller conveyors, complete accessories. Speedy delivery through distributors in major cities.

HYTROL CONVEYOR CO., Inc.
1953 S. 54th Street
Milwaukee 19, Wisconsin

▲ For more details circle NED-343 E on enclosed inquiry slip ▲

LYON® REVOLVING BINS



REAL VISIBILITY and AVAILABILITY of STORED PARTS

•

Save Time and Steps

•

Ideal storage for bulk stock, parts, nuts, bolts, screws, etc. 7-shelf unit (illustrated) is 34" diameter x 65-11/16" high. 4-shelf unit is 37-11/16" high.

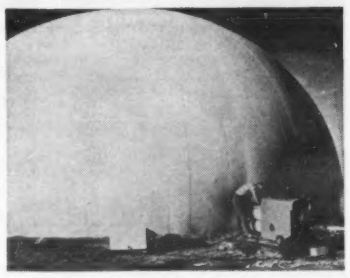
Each shelf has 5 permanent dividers. Up to 5 additional dividers can be added. Gray baked-enamel finish.

Write for free 92-page Lyon Steel Equipment Catalog

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
Dealers and Branches in All Principal Cities

▲ For more details circle NED-344 E on enclosed inquiry slip ▲

AIR-SUPPORTED BUILDING used on ground or concrete slab, has no interior props or poles



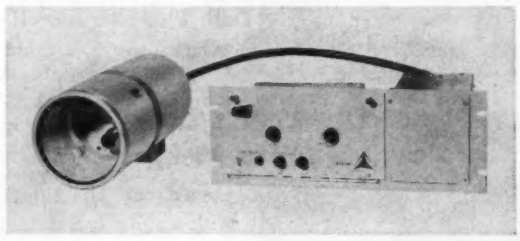
Adverse temperatures, high winds, and other climatic extremes are withstood by the Air:-Seal airhouse, supported solely by air pressure. There are no interior props or poles to interfere with work being performed inside the vinyl impregnated nylon dome. Blowers support the structure or, during cold weather, blower-equipped heaters can be used. Temperatures as high as 40° F above the outside temperature can be maintained. Building may be used for temporary or semipermanent warehouses, covering a building site for all-weather building progress, or for maintenance of large equipment.

Available doors range in size up to those large enough to accommodate a truck. Several means are employed to fasten building to the ground or a concrete slab. Diameters up to 100 ft can be produced, although any size can be specified. Price is $1 to $1.50 per square foot. • **Seattle Tent & Awning Co.**, 310 Westlake Ave. N., Seattle 9, Wash.

▲ For more details circle NED-345 E on enclosed inquiry slip ▲

TV CAMERA SYSTEM operates in all environments without auxiliary protection

Camera of the Dage Model RGS-10 Ruggedized Television System is built to withstand weather, shock, vibration, noise, salt spray, dust, and other extremes of



environment without an additional housing. It weighs only 15 lb, measures 16 in. long by 6⅞ in. diameter, and can operate 2000 ft from camera control. System is transistorized and employs modular construction using plug-in printed circuit modules.

Camera has automatic light control over a range of 2000:1 and horizontal resolution of more than 700 lines. It operates in −20 to 160° F range with no limit on altitude. Pan and tilt, lens turret, optical focus, and zoom lens are among available accessories. System operates on 15 w, 115 v ac 50-60 cycle or optional 400 cycle. • **Thompson Ramo Wooldridge Inc.**, Dage Television Div., Michigan City, Ind.

▲ For more details circle NED-346 E on enclosed inquiry slip ▲

REDMER Index Chuck with Air Operated Collet

SIMPLIFIED DESIGN SPEEDS UP OPERATION AND REDUCES INDEXING ERRORS

The REDMER AIR INDEX CHUCK speeds up production and eliminates many costly indexing errors in either tool room or production line operation. Indexing positions on outside of chuck simplify changeovers. Lever locks into position after each index. Can be used as holding fixture without indexing for milling, drilling, tapping, etc. Twelve indexing positions. Collet capacity 1/16" to 2". Complete with standard round Brown & Sharpe type collet, two air hose, Redmer Foot Control and Valve, Filter, Regulator and Lubricator.

Send for complete details, specifications, price list and catalog of all REDMER chucks.

REDMER AIR DEVICES, INC.
P. O. Box 12229-7100—30th Ave., North
St. Petersburg 33, Florida

▲ For more details circle NED-347 E on enclosed inquiry slip ▲

LYON® STEEL STOOLS

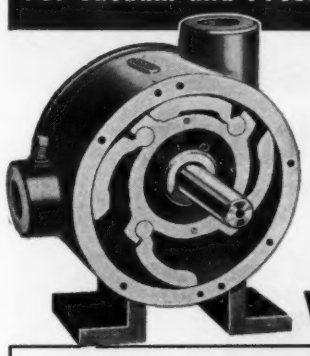
You name the requirement—there's a Lyon stool to meet it. With or without backs—ventilated steel or pressed wood seats—glide, swivel caster or rubber-cushioned feet. Adjustable legs if desired. All stools built of heavy-duty steel, all-welded construction. Finished in gray baked-on enamel.

Write for free 92-page Lyon Steel Equipment Catalog

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
Dealers and Branches in All Principal Cities

▲ For more details circle NED-348 E on enclosed inquiry slip ▲

For Vacuum and Pressure Applications



Get these Exclusive Advantages of LEIMAN HINGED VANE DESIGN

- Four curved vanes on easy-action hinges maintain sealed contact with cylinder walls by centrifugal force.
- Cast Iron Vanes and Cylinders hone themselves to hard, glassy smoothness—take up their own negligible wear.
- Extra-large Air Space provides 2 to 3 times more air capacity.
- Minimum Maintenance. Need only periodic oiling. Fewer moving parts, no composition vanes to replace.
- Also quiet operation—smooth air flow—every pump rigidly tested.

LEIMAN Rotary Positive AIR PUMPS

If your machines now use air pumps—if your new designs require air pumps, contact us for engineering assistance and data of Leiman Air Pumps.

WRITE FOR NEW CATALOG plus Application Book showing hookups.

Vacuum to 29.9" Hg.
Pressure to 20 p.s.i.g.
Volume to 162 c.f.m.

LEIMAN BROS., INC.
167 Christie St., Newark 5, N.J.
Established 1887

▲ For more details circle NED-349 E on enclosed inquiry slip ▲

LYON® SHOP DESKS

BOTH STANDING AND CABINET TYPES

Standing type (shown) provides writing surface, storage space and drawer with lock.

Bottom shelf adjustable. Cabinet type has same top and drawer plus lock-up storage cabinet below.

Durably built of steel, finished in gray baked-on enamel.

Write for free 92-page Lyon Steel Equipment Catalog.

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
Dealers and Branches in All Principal Cities

▲ For more details circle NED-350 E on enclosed inquiry slip ▲

Increased Insulation
BETTER CONNECTIONS
JONES BARRIER TERMINAL STRIPS

Leakage path is increased — direct shorts from frayed terminal wires prevented by bakelite barriers placed between terminals. Binder screws and terminals brass, nickel-plated. Insulation, BM 120 molded bakelite. Finest construction. Add much to equipment's effect.

Jones Means Proven Quality

Illustrated: Screw Terminals—Screw and Solder Terminals—Screw Terminal above Panel with Solder Terminal below. Every type of connection.

Six series meet every requirement: No. 140, 5-40 screws; No. 141, 6-32 screws; No. 142, 8-32 screws; No. 150, 10-32 screws; No. 151, 12-32 screws; No. 152, ¼-28 screws.

Catalog No. 22 lists complete line of Barrier Strips, and other Jones Electrical Connecting Devices. Send for your copy.

Jones
HOWARD B. JONES DIVISION
CINCH MANUFACTURING COMPANY
CHICAGO 24, ILLINOIS
DIVISION OF UNITED-CARR FASTENER CORP.

▲ For more details circle NED-351 E on enclosed inquiry slip ▲

It's time for engineers to take a new look at microfilm

Today microfilm is an active partner to production machines. Engineers, methods and procedures specialists, reproduction supervisors use it to solve paperwork problems and speed production.

Microfilm makes wonderful things happen. It standardizes records and drawings. It shrinks file space. It speeds reference. It improves security. It raises efficiency, lowers overhead.

The only thing you need to make microfilm active —usable daily—is a THERMO-FAX "Filmac 200" Reader-Printer. Developed by 3M research, "Filmac 200" Reader-Printers combine the functions of a reader and a printer in a single low cost unit. You read the film clearly on the big screen. When you want a print, just touch a button and in seconds you have a copy—enlarged up to 18 by 24 inches.

THERMO-FAX "Filmac 200" Reader-Printers in a reproduction department and at multiple point-of-use installations make microfilm practical for any industry.

We invite you to take a new look at microfilm now. Mail the coupon for a free copy of "Let's Take a Positive Look at Microfilm". . . a twelve page booklet about microfilm at work.

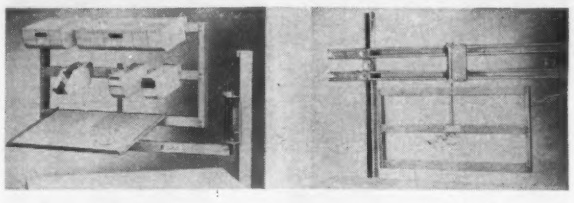
MINNESOTA MINING AND MANUFACTURING COMPANY
Thermo-Fax "FILMAC" READER-PRINTERS 3M
. . . WHERE RESEARCH IS THE KEY TO TOMORROW
St. Paul 6, Minn.
THE TERM "THERMO-FAX" IS A REGISTERED TRADEMARK OF 3M COMPANY

Minnesota Mining and Manufacturing Company
Dept. FBQ-50, St. Paul 6, Minnesota
Please rush me a free copy of "Let's Take a Positive Look at Microfilm."
Name_____
Title_____
Company_____
Address_____
City_____ Zone____ State_____

▲ For more details circle NED-352 E on enclosed inquiry slip ▲

PARTS CONTAINER RACK
positions for easy operator reach

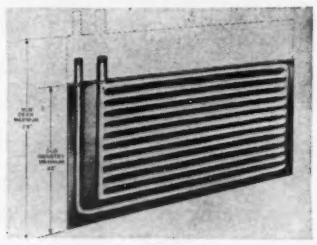
Parts containers hung on this adjustable rack are easily positioned within convenient reach of operator. Rack fits all types of assembly benches as well as company's



Product-A-Flow modular work stations. It holds hanging type containers, as well as other types used in conjunction with an accessory tray. Containers can be hung on both sides of rack which pivots 360 degrees so that it can be reloaded from behind without interrupting operations. When stanchion mounted, rack is attached to an arm which swivels 180 degrees. Mounting heights are adjustable. • **Products For Industry, Inc.**, 1530 Summer St., Stamford, Conn.

▲ For more details circle NED-353 E on enclosed inquiry slip ▲

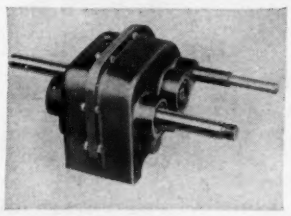
HEAT TRANSFER COIL PANEL
widths range from 12 to 29 in.



Five standard widths from 12 to 29 in. are now available in the Panelcoil. These widths can be made to exact length requirements up to 143 in. The new 29-in. width is 7 in. wider than the previous 22-in. maximum and makes it possible to reduce the actual number of heat transfer panels required for a given heating or cooling job. Minimum of fittings, connecting pipe, and labor are reported advantages. • **Dean Products, Inc.**, 1048 Dean St., Brooklyn 38, N. Y.

▲ For more details circle NED-354 E on enclosed inquiry slip ▲

REVERSING TRANSMISSION
for engines up to 10 hp



Used in combination with a suitable automatic drive, Model P-401 reversing transmission is designed for small vehicles with engines up to 10 hp. It has forward, reverse, and neutral positions and forward and reverse ratios of 3:1 and 2.4:1. Maximum input speed is 5000 rpm. Output shaft is long enough to mount a brake and drive sprocket. Precision needle bearings and seals are used throughout. • **J. B. Foote Foundry Co.**, Box 2214, Fort Dearborn Station, Dearborn, Mich.

▲ For more details circle NED-355 E on enclosed inquiry slip ▲

Mystik Mylar Tape is composed of a smooth, thin, highly flexible polyester film backing and an instant adhering silicone adhesive. Consistent performance under exacting electrical, and limited space conditions. (Thermal limits, −80 to +325°F.). One of the most effective electrical insulating tapes.

Other Mystik Brand electrical tapes:

7000-G: For extreme temperature demands (−110 to plus 550°F.). Tightly woven Fiberglas® backing. Superior electrical qualities.

7100-G: Same characteristics as 7000-G with silicone adhesive on two sides.

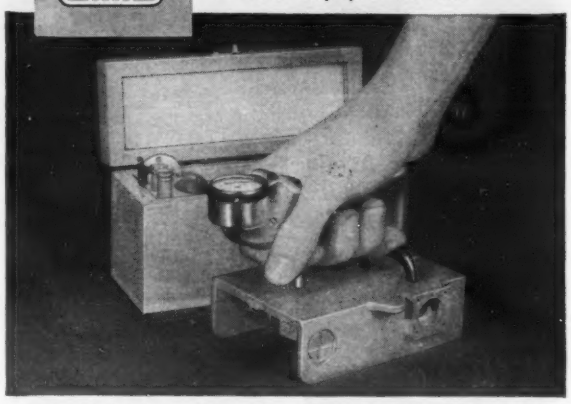
MYSTIK SELF-STIK

Write for complete information
Mystik Adhesive Products, Inc.
2635 N. Kildare Ave., Chicago 39

▲ For more details circle NED-356 E on enclosed inquiry slip ▲

THE MARK OF QUALITY
BARBER COLMAN

Impressor
PORTABLE HARDNESS TESTER
- Rapid testing — no setup
- Easy to carry and use
- Needs only space for hand



A portable hardness tester for aluminum alloys, soft metals, and plastics, the Barber-Colman Impressor is designed for fabricated parts and raw stock testing. Operating experience is not essential. The reading is instantly indicated on the convenient dial. No waiting, preloading, or separate measurements. Barber-Colman engineers will gladly recommend the most suitable model for your application. Write today for complete details.

BARBER-COLMAN COMPANY
Dept. E, 1214 Rock Street, Rockford, Illinois

▲ For more details circle NED-357 E on enclosed inquiry slip ▲

New DAY "RJ" Dust Filter
CONTROLS DUST
SAVES DOLLARS

Built under patents of The DAY Company and H. J. Hersey, Jr.

Because of its new, simplified design the DAY "RJ" dust filter will save you many dollars on initial investment, installation, operation and maintenance. Some of the important new construction features of this dust filter are: a new, quick-opening reverse-air, counter-flow valve for maintaining filter media porosity; a new, reverse-air pressure blower arrangement, and new, air tight, yet quickly opened inspection doors.

This patented DAY dust filter has only 3 moving parts but controls dust effectively, efficiently (99.99+%) and economically. It represents the latest refinement in a long-tested, plant-proven dust filter. Using felted filter sleeves to capture dust, the "RJ" is now available in 5 sizes for handling from 300 to 6400 CFM of air (for larger capacities, multiple groupings are furnished).

For more detailed information write toDAY for free Bulletin G-30. It's filled with facts, specifications and dimensions.

DAY SINCE 1901 *The* **DAY** *Company*

SOLD in UNITED STATES by
The DAY SALES Company
866 Third Ave. N.E.
Minneapolis 13, Minn.
FEderal 6-9671

MADE and SOLD in CANADA by
The DAY Company of Canada, Ltd.
Rexdale (Toronto), Ontario, Canada
Fort William, Ontario, Canada
Rexdale, Cherry 1-8589

Representatives in Principal Cities

EXPERIENCE ENGINEERED LABORATORY TESTED PLANT PROVEN
Dust Control • Pneumatic Conveying • Bulk Storage
EQUIPMENT SYSTEMS INSTALLATION

▲ For more details circle NED-358 E on enclosed inquiry slip ▲

Match Test Proves AO's New "FYRE FREE" CLOTHING may smoke but will not burn!

Permanent-type flameproofing. Fabric can be laundered as many as ten times without loss of flameproofing. 100% cotton. Weighs only 11 to 11½ ounces per sq. yd. finished. Good tensile strength in warp and fill, long-lasting, mildew-resistant. Available in complete line: Sleeves, Cape Sleeves, Overalls, Coats, Coveralls, Hip Leggings, Pants. For spot welding, drop forging, light metal splash, etc. Your nearest American Optical Safety Products Representative can supply you.

American Optical COMPANY SAFETY PRODUCTS DIVISION

SOUTHBRIDGE, MASSACHUSETTS

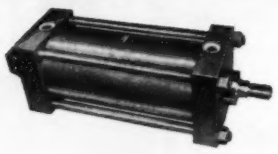
Safety Service Centers in Principal Cities

ALWAYS INSIST ON AO TRADEMARKED SAFETY PRODUCTS

▲ For more details circle **NED-359 E** on enclosed inquiry slip ▲

Modernair HEAVY DUTY CYLINDERS

for Air or Hydraulic Service



Developed to meet the need for a rugged, reliable cylinder, for heavy mill-type service, MODERNAIR's new Heavy Duty Series are made in two types:

HA • for air service to 200 psi. **HH** • for hydraulic service to 1,000 psi.

Both types are available in 3¼", 4", 5", 6" bore sizes, optional stroke length.

Features include:

- ★ Rolled steel heads
- ★ Extra-heavy tie rods
- ★ Heat-treated, chrome plated piston rods
- ★ Self-adjusting "Uneepac" rod seals
- ★ Needle valve cushion adjustment

Write for catalog, prices today—or phone your local MODERNAIR distributor (listed on your phone book Yellow Pages).

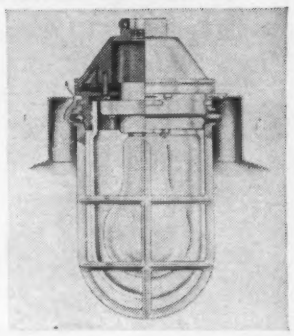
Modernair Trademark **CORPORATION**

Dept. 76, 400 PREDA STREET, SAN LEANDRO, CALIF.

Member National Fluid Power Association 31

▲ For more details circle **NED-360 E** on enclosed inquiry slip ▲

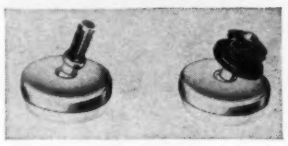
VAPORTIGHT LIGHT FIXTURE in 100 or 200-w types



Die cast aluminum Vaportite industrial lighting fixtures are available with or without porcelain reflectors in 100 or 200-w types for pendent, wall, or ceiling mounting. Wall and ceiling units are attached to outlet box cover or to cast aluminum box having four ½ or ¾-in. tapped hubs. Relamping and cleaning is done without the aid of tools. Ventilated, white porcelain enameled reflectors are offered in standard dome, shallow, deep bowl, and angle types. Spring loaded ball detents permit guard removal with firm pull and tilting action. Heavy cork gasketing maintains vapor tight system even if globe is removed or broken. • Steber Mfg. Co., 2700 Roosevelt Rd., Broadview, Ill.

▲ For more details circle **NED-362 E** on enclosed inquiry slip ▲

FURNITURE GLIDE has nonmarking nylon base



A nonmarking nylon base is feature of this Bassick tilting furniture glide. Glides will not mar floors and are particularly suitable for use in climates where rust or corrosion is a problem. They can be used on carpets and resilient floor coverings. • Bassick Co., 3045 Fairfield Ave., Bridgeport 5, Conn.

▲ For more details circle **NED-363 E** on enclosed inquiry slip ▲

CIRCUIT BREAKER is half the size of previous unit

Mounting requirements are cut in half with the FJ-frame molded case circuit breaker which measures 4½-in. wide—half that of the J-frame—with the same rating and features. New breaker is also 1 in. shorter and half as heavy. Two and three-pole constructions and current ratings of 70 to 225 amp, 600 v ac and 250 v dc are offered in ET thermal-magnetic types and ETI instantaneous magnetic-only types with non-interchangeable trip. Pressure wire connectors, which accommodate aluminum or copper conductors up to 300 MCM, are available for front connection of breaker in panelboards and enclosures. • I-T-E Circuit Breaker Co., 1900 Hamilton St., Philadelphia 30, Pa.

▲ For more details circle **NED-364 E** on enclosed inquiry slip ▲

new U.S. MILLRITE VERTICAL MILL

ACCURATE • BIG CAPACITY • RUGGED

$990*

16" table feed, 12" ram adjustment, 15" vertical knee movement, 8" crossfeed, 4" quill travel. Hard chromed quill, hand scraped and precision ground ways, accurately finished to accepted machine tool standards. Weighs 1100 pounds. Built in Cincinnati to sell for just $990.00 —less ¾ H.P. electricals.*

ON DISPLAY NEAR YOU WRITE FOR NEAREST DEALER

U. S. Burke Machine Tool Co.
2 Brotherton Rd.
Cincinnati 27, Ohio

▲ For more details circle **NED-366 E** on enclosed inquiry slip ▲

WHEREVER SOMETHING STICKS You'll Find A Use For

IMS

SILICONE FLUID SPRAY

ON FILM SEALERS, CRIMPER JAWS, EMBOSSING ROLLS, PANS; STAMPING, FORMING DIES—MOLDS OF ALL KINDS

SIMPLY SPRAY ON THIS PURE SILICONE FLUID COATING

And your sticking problems are over!

The most economical way to apply costly Silicone Release Agents!

SAFE — NON-TOXIC CLEAN — LONG LASTING

Handy Self Dispensing Can

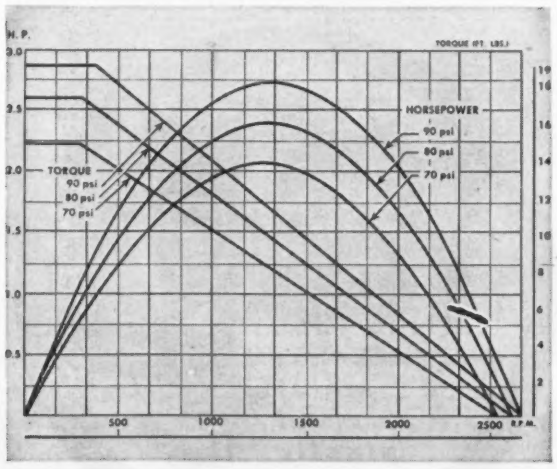
Has No-Fumble, Speedy Spray Head

PRICES (Delivered)

Sample Can	$2.00
Per Unbroken Dozen	$18.00
Per Unbroken Gross	$197.40

INJECTION MOLDERS SUPPLY CO.
3514 LEE RD. CLEVELAND 20, O.

▲ For more details circle **NED-367 E** on enclosed inquiry slip ▲



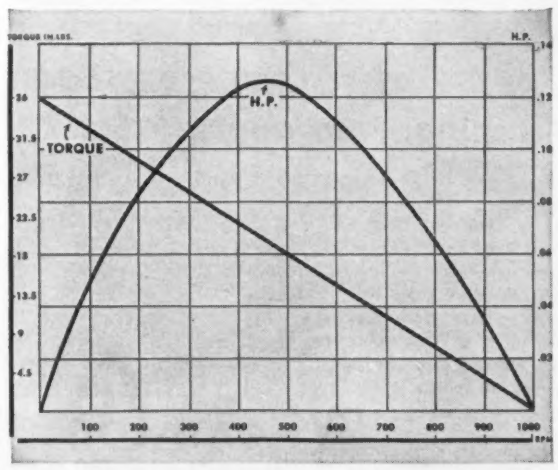
EFFICIENT OPERATION. Axial-piston air motors are available from 0.6 to 2.7 hp. Power curve illustrates performance at varying air pressures.

EQUIPMENT TODAY FOR THE CHALLENGE OF TOMORROW

Gardner-Denver Company, Quincy, Illinois
In Canada: Gardner-Denver Company (Canada), Ltd., 14 Curity Ave., Toronto 16, Ontario

GARDNER-DENVER

▲ For more details circle **NED-361 E** on enclosed inquiry slip ▲



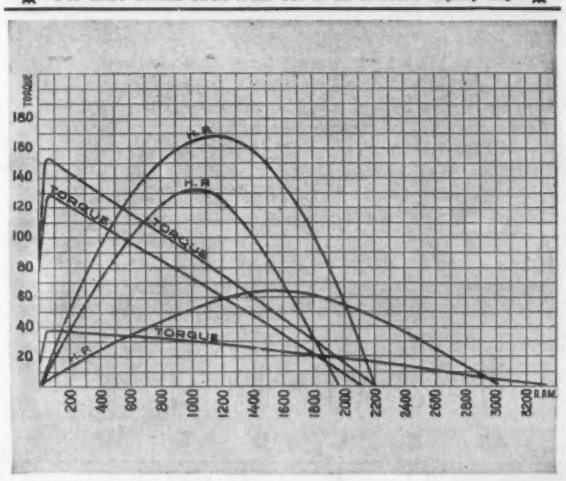
⅛ HP IN 1⅛" DIA. Power curve for this Gardner-Denver rotary air motor shows 36-in.-lb. torque at low speed . . . max. power development of ⅛ hp.

EQUIPMENT TODAY FOR THE CHALLENGE OF TOMORROW

Gardner-Denver Company, Quincy, Illinois
In Canada: Gardner-Denver Company (Canada), Ltd., 14 Curity Ave., Toronto 16, Ontario

GARDNER-DENVER

▲ For more details circle **NED-365 E** on enclosed inquiry slip ▲



HIGH STARTING TORQUE. Power curve shows high starting torque of this Gardner-Denver 5-cylinder, radial air motor. Smooth, overlapping power impulses for tugging power at low speeds.

EQUIPMENT TODAY FOR THE CHALLENGE OF TOMORROW

Gardner-Denver Company, Quincy, Illinois
In Canada: Gardner-Denver Company (Canada), Ltd., 14 Curity Ave., Toronto 16, Ontario

GARDNER-DENVER

▲ For more details circle **NED-368 E** on enclosed inquiry slip ▲

PRECISION ANGULAR SET-UPS

MAGNA-LOCK SINE

Set up and go in *minutes!* No dials, scales, fixtures—just standard gauge blocks. Powerful electrical and permanent magnet models. Also inspection plates. Write Dept. NM 56.

MAGNA-LOCK, INCORPORATED
BIG RAPIDS, MICHIGAN, U.S.A.

For more details circle NED-369 E on enclosed inquiry slip

now-
SHEAR-PROOF
ALLOY STEEL

DRIV-LOK PINS
for maximum resistance to

shear *shock* *fatigue*

- Drill a hole and drive them in . . . they're grooved and self-locking
- Provide the ultimate in physical properties at moderate cost
- Re-usable without loss of holding power

Now, you can get the efficiency, convenience and proven economy of DRIV-LOK Grooved Pins PLUS maximum resistance to shear, shock and fatigue, by specifying or installing *Shear-Proof* DRIV-LOK Pins. Made of alloy steel, heat treated to provide optimum physical properties and high shear values, Shear-Proof DRIV-LOK Pins are designed for critical applications where ultimate strength and reliability are mandatory. They are replacing alloy dowels, bolts, key and set screw assemblies, hollow pins (used singly, or one inside the other) in widely varied applications . . . thus saving time, labor and material. Write for special Shear-Proof DRIV-LOK Pin Catalog. Sample Type A Shear-Proof Pins furnished free on request.

type A standard

SPECIAL TYPES TO ORDER . . .

A3 B C D E U

COMPARE TYPICAL SHEAR VALUES (Minimum double shear strength in pounds)	Diameter	Slotted Spring Pins	Coiled Spring Pins HEAVY DUTY	SHEAR-PROOF DRIV-LOK PINS
	3/32	1000	1030	2040
	1/8	2100	1840	3690
	5/32	3000	2880	5720
	3/16	4400	4140	8240
	1/4	7700	7360	14720
	5/16	11500	11500	22960
	3/8	17600	16580	33160
	7/16	20000	22540	45000
	1/2	25800	29440	58900

DRIV-LOK SALES CORPORATION
717 PARK AVENUE • SYCAMORE, ILLINOIS

For more details circle NED-370 E on enclosed inquiry slip

MASSIVE NYLON CASTINGS
up to 6-lb units cast in short runs

Nylocast, a licensed European process for casting nylon parts, is used for production of short or limited runs of massive nylon castings weighing up to 6 lb. Tooling costs are low and a high viscosity nylon is used. There is practically no limit on cast-in inserts, threads, lugs, intricate shapes, or thicknesses. • **Nylon Molded Products Corp.**, Dept. R-152, Garrettsville, Ohio.

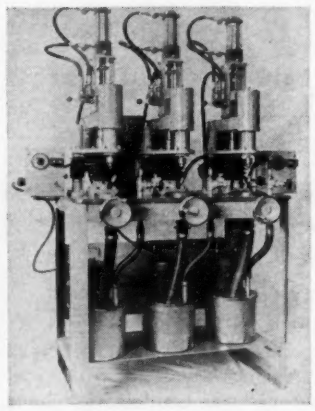
For more details circle NED-371 E on enclosed inquiry slip

MASONRY SAW BLADE
rigid type resists breakage

Glazed tile, super duty refractories, soft sandstone, and cinder block cover range of masonry materials which are easily cut with 17 Series of Tuffie saw blades. Woven Fiberglas mesh and abrasive grains make them strong and rigid to resist breakage. Suited for use on power hand saws, they are available in a range of sizes and types for various materials • **Eveready BrikSaw Co.**, Dept. 605, 1104 Union Ave., Kansas City 1, Mo.

For more details circle NED-372 E on enclosed inquiry slip

MULTIPLE SPINDLE RIPPERS
for rough finishing carbide dies



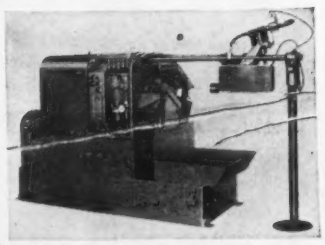
Light and heavy duty models of Dykrex automatic rippers for rough finishing tungsten carbide dies are now offered in single, double, and triple spindle units. One operator can easily operate up to six spindles. Rippers operate pneumatically, and heads can be adjusted for various size dies and the required pressure. They utilize boron or silicon carbide cutting materials. An easily cleaned abrasive pumping unit is attached to each spindle ripper. • **Dykrex Corp. of America**, Box 9022, North Station, Newark 4, N. J.

For more details circle NED-373 E on enclosed inquiry slip

FASTER AUTOMATIC CUT-OFF
Tubing, Pipe and Bar Stock

the Modern Way

Automatic operation—from loading to final cut-off. Handles solid bar stock up to 3" O.D.—tubing up to 8" O.D. Cuts any material that can be turned. 16 spindle speeds.



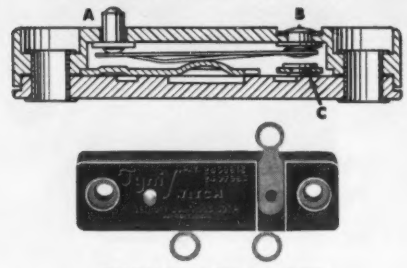
CATALOG
Has complete specifications of all models. Illustrates parts that are being formed, grooved, flanged or chamfered and cut off in a single operation at a high rate of speed. Also describes the automatic feeder, hot spinning machine for sealing ends of tubing, and the Modern Safety Drill Table.

WRITE

MODERN MACHINE TOOL CO.
2005 Losey, Jackson, Michigan

For more details circle NED-374 E on enclosed inquiry slip

DETROIT TYNISWITCH



SHOWN ACTUAL SIZE
LENGTH 1-5/8"—WIDTH 7/16"—DEPTH 11/32"

THIS SWITCH MAKES SNAP DECISIONS

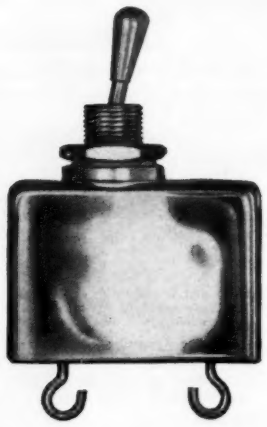
You can push the Detroit TyniSwitch just so far before snap!—it changes its mind. A low operating force on actuator "A" snaps the beryllium copper blade across the gap "B-C." This cuff link-size switch is as precise as a good watch—resists shock and vibration with its simple, durable design.

Write—*right now*—for information. Detroit Controls, 5900 Trumbull, Detroit 8, Michigan.

Be sure to see Detroit Controls at Booth 1230—Design Engineering Show—New York City—May 23-26

AMERICAN-Standard
DETROIT CONTROLS DIVISION

For more details circle NED-375 E on enclosed inquiry slip



This is the actual size of Heinemann's new subminiature circuit breaker, the SM3. It weighs only 2.1 ounces, is hermetically sealed and magnetically actuated . . . requires no de-rating for high ambient temperature. In fact, extensive testing has proven the breaker's excellent all-around operational stability under extremely adverse environmental conditions. The SM3 is available with either fast or slow time delay, in any integral or fractional current rating from 0.050 to 10 amperes, at 110V, 60 cycles, 110V, 400 cycles ac; or 50V dc. For complete details and specifications, write for Bulletin 3502.

HEINEMANN ELECTRIC COMPANY
106 PLUM STREET TRENTON 2, N. J.

S.A. 1020

For more details circle NED-376 E on enclosed inquiry slip

USE THE
Nissen
BALL POINT WRITING TUBE
make permanent marks on
metal
wood
plastic
glass

This ball point marker saves considerable time in marking, numbering or coding products made of wood, metal, plastic and glass. It is widely used because: • tube with ball point makes application easy on rough or smooth surfaces • special, fast drying opaque ink withstands heat and weathering • marks will not chip, peel, fade or rub off • 7 different colors are available • 3 different size ball points make fine or broad lines

Write, wire or call for a trial order

JOHN P. NISSEN, JR. Co., *manufacturers*
GLENSIDE, PENNSYLVANIA • CALL TUrner 4-4664

For more details circle NED-377 E on enclosed inquiry slip

DO YOU WANT FAST, ACCURATE SCRATCH-FREE BENDS?

FAST, VERSATILE MODEL 1400 BENDS TUBING, BARS, PIPE, ANGLES, CHANNELS, ROLLED SHAPES OR EXTRUDED PARTS

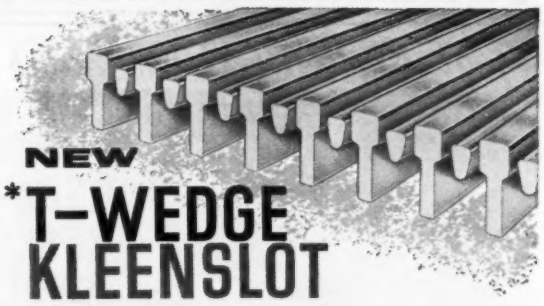
- **SAVES TIME, CUTS COSTS** — on production, experimental, maintenance or small lot bending jobs.
- **ELIMINATES WORKPIECE INTERFERENCE**—on jobs with multiple planes, odd shapes. Pivoting top assembly and double tool holder ways on arms permits two-minute change from right-hand to left-hand bending.
- **ACCURATE HYDRAULIC POWER**—with convenient controls bends consistently to ± ½° tolerance.
- **PRODUCTION CAPACITY**—smooth, low-cost bends at speeds of 300 to 400 an hour; material up to 1¼" O.D. tubing.

WRITE TODAY FOR CATALOG 356

PINES ENGINEERING CO., INC.
Specialists in Tube Fabricating Machinery 640 WALNUT • AURORA, ILLINOIS

PRODUCTION BENDING • DEBURRING • CHAMFERING MACHINERY

▲ For more details circle NED-378 E on enclosed inquiry slip ▲



NEW

*T-WEDGE KLEENSLOT

(preparation screen)

"T" and "WEDGE" wire combine to create the ultimate in...

GUARD BAR DESIGN –high "T" profile wire between every wedge shaped wire performs as guard bar *and* screen

GUARD BAR ECONOMY –new design effects added screening surface, small screen efficiency with large screen life

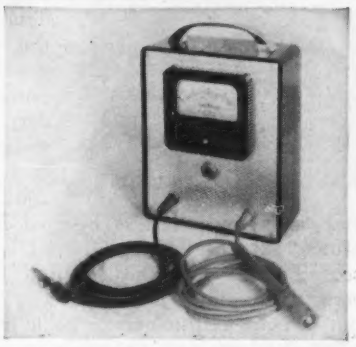
with ***I.F.A.**—independent flexing action*

Especially adaptable for flumes or vibrator applications — can easily be interchanged with other types of Kleenslot screens without mechanical changes — abrasion resistant stainless steel
**patent applied for*
for additional information—write

WEDGE-WIRE CORPORATION Wallington, Ohio

▲ For more details circle NED-379 E on enclosed inquiry slip ▲

ANODIC FILM TESTER
portable unit is self-contained



Thickness of anodized surface film on aluminum is rapidly tested by the Anotron, an anodic film tester. The 5-lb portable unit with self-contained battery performs a nondestructible test in less than 1 min. Result is shown on a direct reading dial. Price is under $100. • J. R. Engineering Co., Box 343, Wausau, Wis.

▲ For more details circle NED-381 E on enclosed inquiry slip ▲

POLYETHYLENE TANKS
500-gal open and closed head types

All of the inherent characteristics of polyethylene, including permanent corrosion resistance, are retained in these 500-gal capacity molded storage tanks. They are offered with full open head, closed head with openings, and with flat or conical bottoms. Several types of access and drain fittings are optional. Tanks are made of virgin natural polyethylene or black for outdoor storage. They meet various sanitary requirements. • Delaware Barrel & Drum Co., New Castle & Columbia Avenues, Wilmington, Del.

▲ For more details circle NED-382 E on enclosed inquiry slip ▲

DUAL-IMPELLER VACUUM
for heavy duty wet or dry cleaning

Fast, efficient wet or dry pick-up is possible with this Clean-O-Matic Dual 800 vacuum cleaner. Two separate air-cooled motors drive two impellers to give 72-in. water lift. Features include corrosion resistant plastic tank liner, enameled exterior with chrome trim, lightweight polished aluminum head, nonprotruding interior spring locks for head, rubber bumpers at top and bottom, built-in tool basket, 8-in. semipneumatic wheels with 3-in. steering casters, and twist lock removable cord. • Cassidy Products Co., 2285 University Ave., St. Paul 14, Minn.

▲ For more details circle NED-383 E on enclosed inquiry slip ▲

NEW PORTABLE HYDROCARBON DETECTOR
detects and measures hydrocarbon traces in gases and atmospheres

The new Perkin-Elmer® Model 213 Hydrocarbon Detector detects and accurately measures—in less than 10 seconds – fractions of parts per million of such organic compounds as hydrocarbons, aldehydes, ketones, amines in gases and atmospheres.

Sensitivity range is adjustable from as low as 0-1 ppm full scale to 10% full scale!

Easy as a suitcase to carry – weighs only 47 lbs.
Easy to use – non-technical personnel master it quickly.

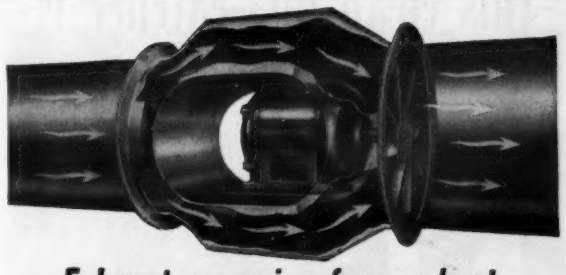
HUNDREDS OF APPLICATIONS EVERYWHERE!

- air-pollution studies – industrial areas, plants, tunnels, garages, highways
- measuring hydrocarbon contamination in LOX, other missile and aviation gases
- monitoring low explosive limits – mines, hospital operating rooms, industrial environments
- checking automotive exhaust gases for engine, fuel, muffler, afterburner performance
- studying and controlling combustion equipment in heating and steam generation
- checking leaks – packaging, gas transmission lines, storage areas, refrigeration equipment
- yours?

For complete details write for the new 8-page brochure.

INSTRUMENT DIVISION
Perkin-Elmer *Corporation*
NORWALK, CONNECTICUT

▲ For more details circle NED-385 E on enclosed inquiry slip ▲



Exhaust corrosive fumes, heat without 90° turn in air flow

Direct-drive BIFURCATOR® fans are installed at any angle like a section of ductwork, so no elbow or motor mounting platform is required. Sharp-corner deflection of exhaust flow is eliminated, friction is reduced and velocity is increased. This *original* BIFURCATOR design bypasses exhaust flow *around* the motor which is shielded by a protective housing. Available in a choice of metals or with corrosion-resistant coatings for operations with high acid atmospheres. Sizes and capacities range from air delivery of 913 cu. ft./min. (12 in. diam. fan, 1/20 h.p. motor) up to 45,000 cu. ft./min. (48 in. diam. fan, 20 h.p. motor.) WRITE Dept. NED-560 FOR FREE, ILLUSTRATED BULLETIN.

De Bothezat® FANS
A DIVISION OF
American Machine and Metals, Inc.
EAST MOLINE, ILLINOIS

▲ For more details circle NED-386 E on enclosed inquiry slip ▲

Tugit® gives men a work break that saves

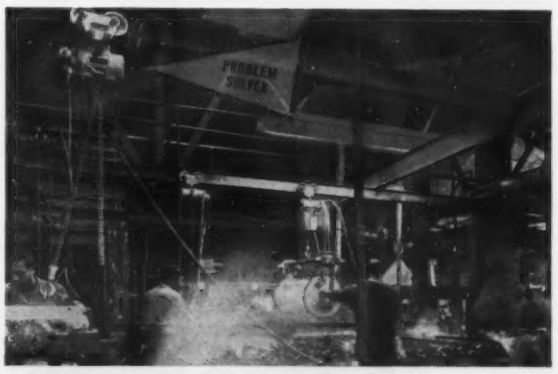
Tugit is the compact, portable link chain hoist of countless uses — at any angle, anywhere. It gives maintenance men a real work break — is geared to lift a ton with only 40 lbs. of muscle effort. They use it for everything from positioning piping to placing machinery — with complete safety.

Whether Tugit is used for maintenance or production jobs indoors or outdoors, time, effort, and money are saved. Ask your Shaw-Box Distributor for a free demonstration. Tugit comes in ¾ to 3 ton capacities. Spark and corrosion resistant models. Write for Bulletin 15015-1C.

60 B-2

TUGIT HOISTS
a product of
MANNING, MAXWELL & MOORE, INC.
Shaw-Box Crane & Hoist Division • Muskegon, Michigan
In Canada: Manning, Maxwell & Moore of Canada, Ltd., Galt, Ontario

▲ For more details circle NED-380 E on enclosed inquiry slip ▲



Budgit Air Hoists cut maintenance 75%

Specified Plating Company, Chicago, Ill., does all kinds of plating on order. It is a 16-hour day operation.

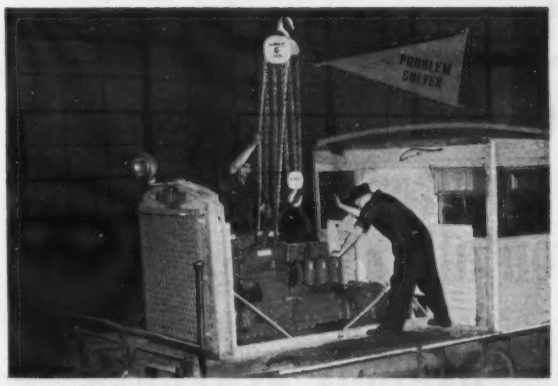
Budgit Air Hoists cut maintenance costs 75% over electric hoists. The high moisture atmosphere doesn't harm the Budgits, so the maintenance man can now attend to regular duties.

Operators of the Budgit Air Hoists say air is faster, the job is easier, and they keep ahead of the normal work cycle. With higher production speeds, operations are nearly automatic except for dipping.

Ask your Shaw-Box Distributor about Budgit Air Hoists in ¼, ½ and 1 ton capacities and Load Lifter Air Hoists, 1 to 15 tons. Write for Bulletin 15025-1C.

BUDGIT® AND LOAD LIFTER® AIR HOISTS
A product of
MANNING, MAXWELL & MOORE, INC.
Shaw-Box Crane & Hoist Division • Muskegon, Michigan
In Canada: Manning, Maxwell & Moore of Canada, Ltd., Galt, Ontario.
60 A0-3

▲ For more details circle NED-384 E on enclosed inquiry slip ▲



"Backbreakers" wiped out by Budgit® Chain Blocks

Eliminate tough lifting and plant maintenance stops being a costly muscle-aching job. A large midwestern heavy equipment producer found this only too true. Now Budgit Aluminum Chain Blocks handle routine troublesome maintenance jobs — repairing furnaces, machinery, moving large pipe, motors, valves — that demand shifting as well as lifting. They are also solving handling problems at numerous metalworking machines.

Backsaving Budgit Chain Blocks can cut *your* costs. Capacities range to 10 tons. Spark and corrosion resistant models available. Ask your Shaw-Box Distributor for a demonstration. Or write for Bulletin 15025-1C.

60 C-3

BUDGIT CHAIN BLOCKS
A product of
MANNING, MAXWELL & MOORE, INC.
Shaw-Box Crane & Hoist Division • Muskegon, Michigan
In Canada: Manning, Maxwell & Moore of Canada, Ltd., Galt, Ontario

▲ For more details circle NED-387 E on enclosed inquiry slip ▲

LEADING TEXTILE COMPANY
Announces Development
OF
DISPOSABLE CLOTH TOWELS

YOU ARE INVITED TO TRY ONE OR ALL STYLES
DESIGNED FOR
HAND TOWELS WIPING
POLISHING DUSTING
RSVP FOR SAMPLES & INFORMATION
CHICOPEE MILLS, INC.
47 WORTH ST., N. Y. 13, N. Y.

▲ For more details circle NED-388 E on enclosed inquiry slip ▲

This clean dirt-catcher is NEW!

INSIDE THROW-AWAY COLLECTION BAG REVOLUTIONIZES INDUSTRIAL VACUUM CLEANING!

X-Ray View of Model 88

All General 4-STAR E-CON-O-VACS convert to inside bag operation! The disposable throw-away bag attaches to the intake tube with simple adaptor, and collects dirt inside. You get double filtering action, and no hands touch dirt!
If your present Vacuum doesn't have this new GENERAL Quality feature it isn't a complete Cleaner!

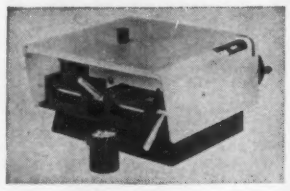
One of 12 outstanding features available on all General
HEAVY DUTY WET AND DRY
4-STAR E-CON-O-VAC SERIES
VACUUM CLEANERS

General FLOORCRAFT, INC.
3630-50 Rombouts Ave., Bronx 66, N.Y. Established 1930
World's Most Complete Line of Industrial and Household Floor Maintenance Machines and Vacuums
All Sizes for All Types of Floors — Made by Floor Machine and Vacuum Specialists

Generals are Feature-Filled! MAIL COUPON for complete details
☐ Have Distributor call on us.
☐ Send complete information, literature and prices.
☐ Vacuums ☐ Floor and Rug Cleaning Machines
NE5
Company ____
Street ____
City ____ State ____
My Name ____ Title ____

▲ For more details circle NED-389 E on enclosed inquiry slip ▲

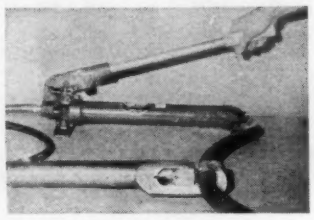
VOLUME METER
for wide variety of solids



True volume as well as the density, specific gravity, or porosity of porous, granular, powdery, or irregular solid materials is determined in 1 min by the Model 200 Pycnometer. Material to be measured is inserted into a sample container, a crank is turned until forcefully stopped, a second crank is turned until a pressure gage reads zero, then volume is read directly from a digital readout in cubic centimeters or cubic inches. Sample is unaffected in any way. Operable by nonskilled personnel, the 16-lb unit is offered with either a 50 or 100 cc sample container. Accuracy is within 0.1 cc with a 50 cc cup. Price is $450. • **Houston Instrument Corp.**, Box 22234, Houston 27, Tex.

▲ For more details circle NED-390 E on enclosed inquiry slip ▲

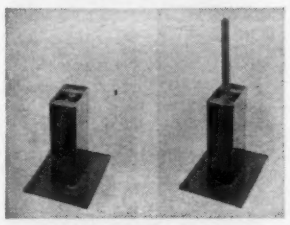
CABLE CUTTER & CRIMPER
hydraulically cuts cables to 1 in.



Forward edge of the Welsbach cable cutter and crimper has a hook-like section for prying a cable away from flat surfaces or separating it from others in a group. It firmly seats the cable for cutting by a hardened steel blade, actuated by a manually pumped hydraulic ram. Copper cables up to 1 in. are severed with smooth edges. Cutting blade is replaced with two crimping dies, then, with the connector sleeve in place over the cable separation, the connector is seated and pressure is applied. • **Welsbach Equipment Co.**, Westmoreland & Stokley Streets, Philadelphia 29, Pa.

▲ For more details circle NED-391 E on enclosed inquiry slip ▲

ANCHOR BOLT & WELL
retractable type for heavy machines

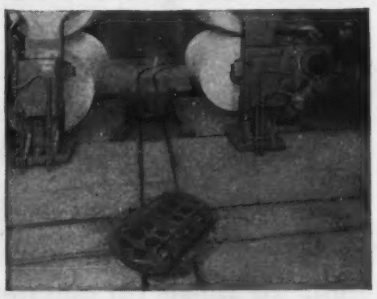


Preng anchor bolt and well does not project above the floor surface to interfere with moving large presses and heavy machinery into position. The bolt can be moved ½ in. in any direction in the well, buried in a concrete floor. With equipment in position, the bolt is moved under the bolt hole and pulled up by inserting a ¼-in. bolt into the tapped hole in the anchor bolt. Rectangular shape of the well and bottom plate prevents the anchor bolt from turning. Photo shows unit before it is buried in the floor. • **Paton-Reynolds Co.**, 2150 N. Ritter Ave., Indianapolis 18, Ind.

▲ For more details circle NED-392 E on enclosed inquiry slip ▲

Track and Dollies for 3000 lb. Rolls

SAVE TIME AND LABOR

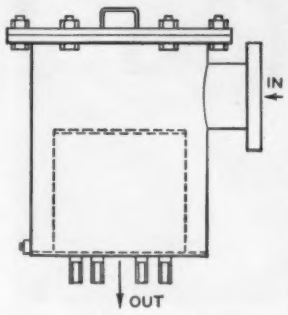


Make roll handling safer and easier with a track system engineered by Dilts. Dollies are floor-loaded —lift truck traffic and crowded aisles are eliminated.
Dollies are mounted on anti-friction bearing rollers. Turntables, transfer tables, straight and curved track sections and switches are available in standard units to handle rolls up to 3000 lbs.
A Dilts engineered system is easy to install and requires no maintenance. Write for Specification Sheet 114.

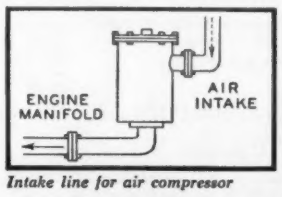
THE BLACK-CLAWSON COMPANY
DILTS DIVISION • FULTON, N.Y.

▲ For more details circle NED-393 E on enclosed inquiry slip ▲

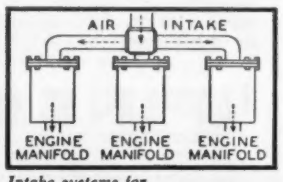
IN-THE-LINE FILTERS
dry-type, oil-wetted and oil bath types



A line of filters for "in-the-line" or "closed circuit" operation is manufactured by The Air-Maze Corporation. Built for efficient filtration of air and gases, these filters are incorporated on remote air intake lines for engines, compressors or industrial heating furnaces. They are used for the filtration of fuel gas to engines; and for filtration of natural gas on transmission or gas processing applications. Cleanable, dry-type units are available for extremely fine filtration, where dust loads are low or where oil must be absent from the gas stream. Oil-wetted and oil bath types available where dirt loads are higher and where continuous low pressure drops are mandatory.
Write for bulletins. The Air-Maze Corporation, Dept. NE-5, Cleveland 28, Ohio. (Subsidiary of ROCKWELL-STANDARD Corporation)



Intake line for air compressor



Intake systems for multi-unit compressor station

▲ For more details circle NED-394 E on enclosed inquiry slip ▲

Gage Block Precision means
GRADE "A" ACCURACY*

with **ULTRA-CHEX GAGE BLOCKS**
82 PIECE SET...
NOW ONLY $249.50
*Grade "A" Accuracy: −.000002" and +.000006"

For Complete Information request our 96 Page Catalog — Contact any of our 4 "Coast to Coast" Locations or your nearest Local Distributor.

SCHERR-TUMICO
PRECISION MEASURING TOOLS AND INSTRUMENTS
WAREHOUSE STOCK, SHOWROOMS & SALES OFFICES AT
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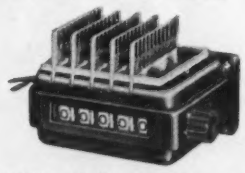
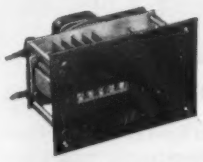
ST. JAMES: St. James, Minnesota
LOS ANGELES: 3337 West Olympic Blvd., Los Angeles 19, Cal.
CHICAGO: 5045 W. Harrison, Chicago 44, Ill.
When writing to any of the above locations, refer to DEPT H-5

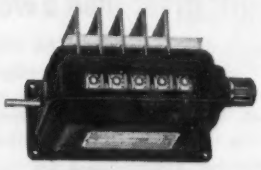
▲ For more details circle NED-395 E on enclosed inquiry slip ▲

VEEDER-ROOT READOUT DEVICES

This is the basic series of Remote Data Readout Counters. Some are available for standard applications or design variations will be submitted based on requirements. They function as analog to digital converters.


Series 1538/electrical reset/electrically actuated. Speed 1000 cpm, 3 or 5 figure


Series 1538/electrically actuated/manual reset. Speed 1000 cpm, 3 or 5 figure


Series 1606/mechanically actuated manual reset standard; bi-directional (non-reset) available. Speed 5000 cpm, up to 5 figures

Let Veeder-Root help you make Counters do more!

Extensive design experience and precision production techniques make it possible for Veeder-Root to help you solve a wide variety of digital, readout, control and recording problems with counters — from the simplest ratchet to advanced readout and navigational devices. Send for information on specific applications or contact your local Veeder-Root Counting Engineer.

Veeder-Root
HARTFORD 2, CONNECTICUT
VRO-34
"The Name that Counts"

▲ For more details circle NED-396 E on enclosed inquiry slip ▲

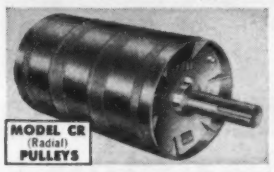
Most Complete Line Ever!

ERIEZ

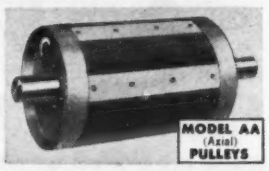
permanent non-electric Erium-powered

MAGNETIC PULLEYS

New in 2 "duty-rated" designs—to give you the finest automatic separation for your exact application—fine iron or tramp iron removal.



For removing large pieces of tramp iron from heavy depths of flow. Provides a strong, deep magnetic field of equal intensity around the full periphery. 12" through 36" diameters.



For fine iron separation, plus small and medium pieces of tramp iron, in average material flows! Strong magnetic field of equal force extends across full pulley width. 8", 12", 15", & 18" diameters.

NEW, EXPANDED LINE! New design, new magnetic efficiency permit increased operating range and effectiveness with 2 different magnetic actions. Peak protection for all operations—from rugged crusher protection through delicate product purification operations.

Prevent product contamination, machinery damage, fires, explosions, downtime. 2 designs, 4 magnetic strengths, 8 diameters, 14 belt widths. No operating or maintenance costs. For all materials, wet or dry, on belts of non-magnetic material. Easily installed.

ERIEZ

**Erium—an exclusive, high quality permanent magnetic power source specifically designed and energized by Eriez.*

New fact-filled 6-page bulletin has installation photos, selector guide, etc. Write today! Eriez Manufacturing Co., 80EA Magnet Drive, Erie, Pennsylvania.

▲ For more details circle **NED-397 E** on enclosed inquiry slip ▲

NEW PASLODE "CLIPPER"

Photo courtesy of Kroehler Mfg. Co.

PORTABLE—CLIPPER weighs only 5¾ pounds, is well-balanced, easy to handle

AIR POWER—a squeeze of the trigger and air power does the hard work, fast

MAGAZINE FEED—loading takes only a few seconds, no wasted clips, no wasted time. Magazine holds 50 to 75 clips, depending on size

SPECIAL CLIPS—steel clips developed by Paslode come in two sizes: S-1 for wires 7-11 ga., B-1 for wires 11-13 ga. Other sizes are under development

New power tool takes over a slow, hand-bruising job and does it better, faster, easier

• This is the first and only tool of its kind. The Paslode CLIPPER substitutes air power for muscle power, wraps a clip tightly around two or more wires in a fraction of a second, at the touch of a trigger...saves time and effort and reduces costs.

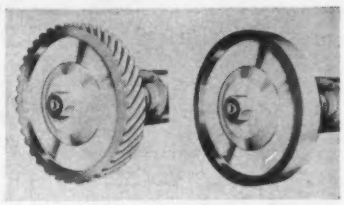
The CLIPPER and the clips it uses were designed and developed by Paslode for the furniture and bedding industries. It has been proved in production line use. Operation of the tool is simplicity itself. Reloading takes only a few seconds. Write for data sheet.

PASLODE COMPANY
Division of Signode Steel Strapping Company
5860 Northwest Highway, Dept. ED, Chicago 31, Ill.

Manufacturers of staples and hand-operated and air power stapling tools.

▲ For more details circle **NED-398 E** on enclosed inquiry slip ▲

RUBBER CONTACT WHEEL
used with abrasive belts, bands

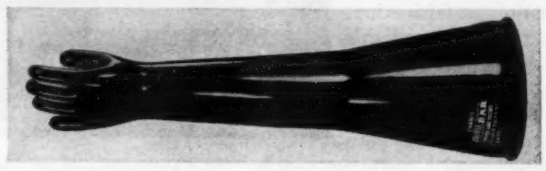


Rubber molding between two steel discs that form the wheel sides comprise the Cosmo R-100 molded rubber contact wheel, used for grinding and polishing with coated abrasive belts and bands. All wheel arbor holes are standard, but aluminum or steel flanges inserted into the wheel arbor holes have user-specified diameters. Balanced wheel is available in a 10 to 90 durometer range, with oil-resistant tires and plain or serrated faces, and can be used for wet or dry operations. • **Cosmo Wheels, Inc.**, 1019 W. Fulton St., Chicago, Ill.

▲ For more details circle **NED-399 E** on enclosed inquiry slip ▲

LEAD-LOADED RUBBER GLOVES
designed for soft gamma shielding

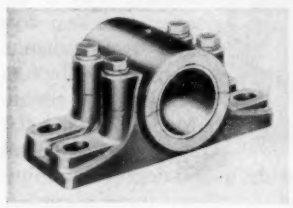
Made of lead-loaded, seamless, milled Neo-Sol neoprene by the multiple dip process, Rad-Bar dry box gloves are designed for soft gamma shielding and high



voltage electrical protection. Gloves are offered in standard heavyweight and lightweight thicknesses, in several dimensions, styles, and hand sizes. Heavyweight gloves have a lead equivalent of 0.33 mm, and lightweight gloves a 0.10-mm lead equivalent. Since inside and outside exposed surfaces are built up of unleaded neoprene, gloves also provide oil and chemical resistance. • **Charleston Rubber Co.**, 18 Stark Industrial Park, Charleston, S. C.

▲ For more details circle **NED-400 E** on enclosed inquiry slip ▲

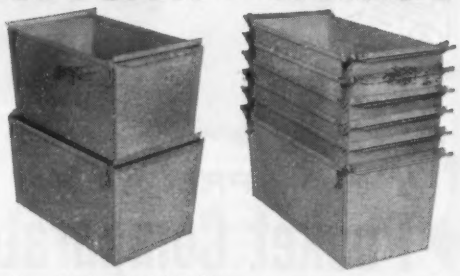
PILLOW BLOCK
facilitates liner replacement



Worn bushing or liner is easily replaced in this pillow block designed for applications involving shock loads, high temperatures, and corrosive conditions. Cap of block is removed and shaft is lifted just enough to allow lower half of liner to be loosened and slipped out. A new bronze liner can then be inserted and seated by tapping lightly. Line includes two-bolt journal bearings for standard shafts from 1 15/16 to 2 15/16 in., rigid four-bolt pillow blocks for 3 7/16 to 8-in. shafts, and angle pillow blocks for all standard transmission shafts. • **Dodge Mfg. Corp.**, 600 S. Union St., Mishawaka, Ind.

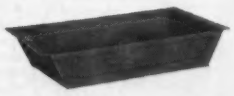
▲ For more details circle **NED-401 E** on enclosed inquiry slip ▲

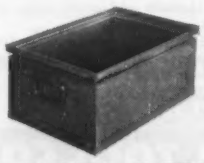
STACK.. or ..NEST!



New STERLING STACK/NEST pans stack securely when full, nest when empty for minimum storage space. Side stops position pans centrally when stacked. Sturdy, economical, available in sizes to your requirements. *Write for details.*

Steel **NESTING PANS**
Sizes tailored to your needs. Rugged pans with 1001 uses.





REGULAR & BIN FRONT STACKING BOXES
Strongest top rim for lifetime use. Available in many sizes.

STERLING Factory Equipment Co.
231 Charles St., Providence 4, R. I.
Established 1935

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UNSTICK *stuck* BINS

with new electro-permanent magnetic

ERIEZ HI-VI VIBRATORS

PAT. PEND.

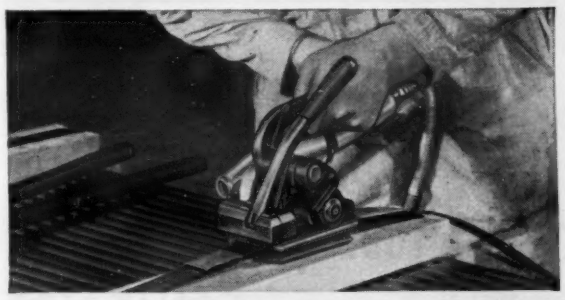
Here's the newest and most efficient answer to those hard-to-move materials in sticky bins... designed to provide superior operating efficiency...exclusive pinpointed vibration gets right to the trouble spot — starts stubborn materials moving!

NO RECTIFIER NEEDED • COMPLETELY ENCLOSED HOUSING • GREATER VIBRATION IMPACT THAN COMPARABLE SIZE UNITS • RUGGED AND DURABLE • LOW FIRST COST • LOW OPERATING AND MAINTENANCE COST • Special Mill Mutual ACCEPTED Units for HAZARDOUS DUSTY LOCATIONS

ERIEZ

GET THE WHOLE STORY . . . WRITE TODAY. Eriez Mfg. Co., 80-EB Magnet Dr., Erie, Pa.

▲ For more details circle **NED-403 E** on enclosed inquiry slip ▲



Signode heavy-duty tensioner saves a foot or more of strap every time it's used

The air-powered feed wheel FN-114 takes 1¼-inch strapping directly from the dispenser. No waste strap.

- Can save a foot or more of strap every time it's used
- Easier and faster to load than a windlass type tool
- Unlimited takeup...pulls pre-set tension every time
- Plenty of power...up to 3000 lb. tension.

Send for free illustrated folder, "Air Power Tensioners and Sealers."

SIGNODE STEEL STRAPPING CO.
2643 N. Western Avenue • Chicago 47, Illinois
Offices Coast to Coast
Foreign Subsidiaries and Distributors World-Wide
In Canada: Canadian Steel Strapping Co. Ltd., Montreal • Toronto

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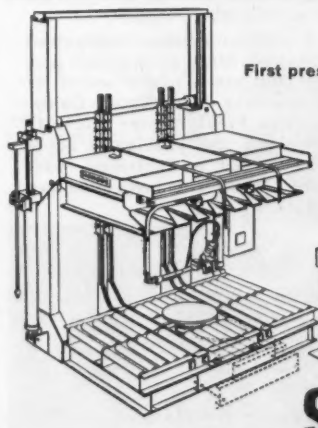

First presses with built-in turntable!
Model CSF6-5-4.
Capacity 6000 pounds.
Platen opening 84" maximum, 36" minimum.

SIGNODE
compression strapping machines

Compression strapping makes tight bundles and bales that cost less to handle, store, ship and receive. Signode compression strapping machines are available in a wide range of models from the lowest cost to semi-automatic machines with built-in turntable that makes cross-strapping quick and easy. For more information about applications and for full details on the machines, write:

SIGNODE STEEL STRAPPING CO.
2643 N. Western Avenue, Chicago 47, Illinois
Offices Coast to Coast
Foreign Subsidiaries and Distributors World-Wide
In Canada: Canadian Steel Strapping Co., Ltd., Montreal • Toronto

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THESE.. and OVER 4000 OTHER TYPES OF CASTERS & WHEELS IMMEDIATELY AVAILABLE from ONE source

RUBBER TREADS . . . a wide choice of treads suited to all types of floors, including Darnelloprene oil, water and chemical-resistant treads, make Darnell Casters and Wheels highly adapted to rough usage.

RUST-PROOFED . . . by zinc plating, Darnell Casters give longer, care-free life wherever water, steam and corroding chemicals are freely used.

LUBRICATION . . . all swivel and wheel bearings are factory packed with a high quality grease that "stands up" under attack by heat and water. Zerk fittings are provided for quick grease-gun lubrication.

STRING GUARDS . . . Even though string and ravelings may wind around the hub, these string guards insure easy rolling at all times.

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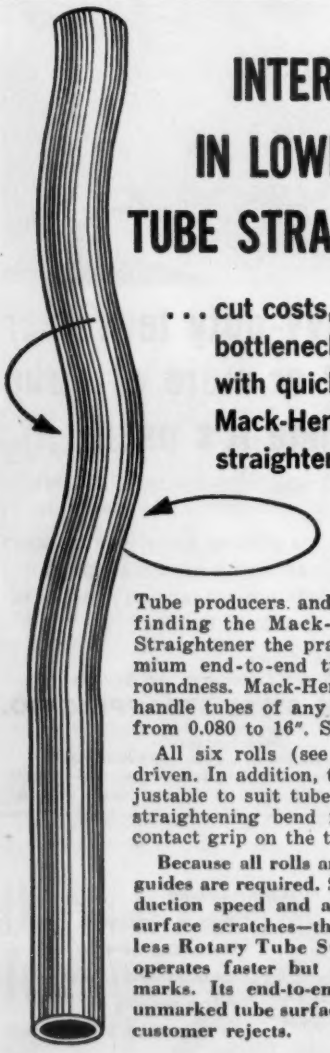
1000 PEACHTREE N. E., ATLANTA, GA.

▲ For more details circle NED-406 E on enclosed inquiry slip ▲



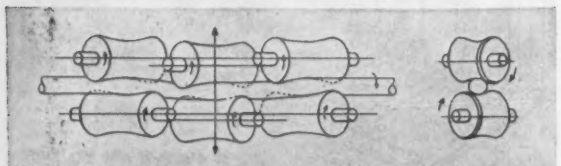
INTERESTED IN LOWER COST TUBE STRAIGHTENING?

. . . cut costs, delivery bottlenecks and rejects with quick, versatile Mack-Hemp rotary tube straighteners

Tube producers and processors alike are finding the Mack-Hemp Rotary Tube Straightener the practical answer to premium end-to-end tube straightness and roundness. Mack-Hemp straighteners will handle tubes of any alloy . . . in any O. D. from 0.080 to 16". Speeds up to 800 fpm.

All six rolls (see diagram below) are driven. In addition, the rolls are fully adjustable to suit tube diameter, amount of straightening bend required, and correct contact grip on the tube.

Because all rolls are driven, no interpass guides are required. Since guides limit production speed and are a major source of surface scratches—the Mack-Hemp Guideless Rotary Tube Straightener not only operates faster but also eliminates guide marks. Its end-to-end straightening, with unmarked tube surface, cuts inspection and customer rejects.



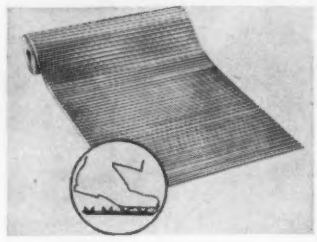
NO GUIDES NEEDED with Mack-Hemp straighteners. Drawing shows how identically-contoured opposed cross rolls—all driven—work. Tube revolves through the rolls spirally, thus all parts of tube in every plane are bend-straightened. Eliminating guides makes possible faster operation and ends major source of surface scratches.

For more information on specifications, dimensions, design data and typical examples of how leading tube producers and processors are using Mack-Hemp straighteners, write for 24-page bulletin "How to Straighten Pipe and Tube"

MACKINTOSH-HEMPHILL
Division of
E. W. BLISS COMPANY
901 Bingham Street • Pittsburgh 3, Pa.

▲ For more details circle NED-407 E on enclosed inquiry slip ▲

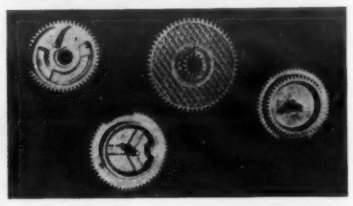
RUBBER FLOOR RUNNERS
V-ribs scrape dirt off shoes



Heavy duty blades in the V-rib design of Shad-O-Rug and Cross-Rib rubber runners flex enough to scrape dirt and grime off shoes in a windshield wiper action. Dirt falls between ribs where it can be cleaned out later. The ½-in. live rubber runners are recommended for use in entrance-ways, corridors, and aisles. V-ribs also provide an effective antislip surface. Both runners are available in red, green, tan, black, white, and gray colors. • **Wear Proof Mat Co.**, 2156 Fulton St., Chicago 12, Ill.

▲ For more details circle NED-408 E on enclosed inquiry slip ▲

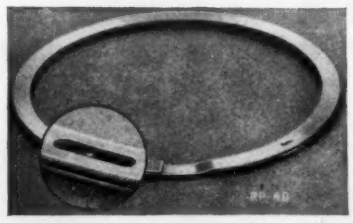
GEAR & PINION COMBINATIONS
die cast for light-load applications



Zinc alloy die cast one-piece gear and pinion combinations are now available for transmission applications involving small, light-load gearing. Using stock die elements, parts are cast in one automatic operation, completely trimmed and ready for use. They are made to AGMA standards for fine tooth 14½-degree involute form gears with slight modifications. Special custom combinations are also available. • **Gries Reproducer Corp.**, 400 Beechwood Ave., New Rochelle, N. Y.

▲ For more details circle NED-409 E on enclosed inquiry slip ▲

RETAINING RING
self-locking type is balanced



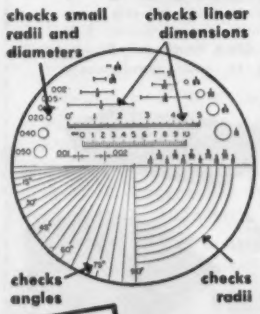
Two - turn, spiral-wound Spirolox retaining ring incorporates two slots and two punched tangs to effect a self-locking action. Made from flat spring steel and coiled on the edge to provide a 360-degree retaining surface, the ring locks when centrifugal force is applied due to high speed rotation. It also locks when dirt or other foreign material tend to force the ring out of its groove. Ring is installed and removed without special tools and is inherently balanced, permitting use on high speed equipment. It can be coiled to any diameter within the limits of the material used, and is furnished in various materials and finishes. • **Ramsey Corp.**, Box 513, St. Louis 66, Mo.

▲ For more details circle NED-410 E on enclosed inquiry slip ▲

THE Original PRECISION Pocket Comparator

checks small radii and diameters

checks linear dimensions



checks angles

checks radii

Saves time and money inspecting small dimensions

• Here's *guaranteed* accuracy in checking small dimensions at a price any business can easily afford. Save time and money measuring wear on cutting tools, checking forms and dimensions of punches, dies and gauges—as well as chamfers, threads and small holes on production parts.

Thousands in use by America's leading precision manufacturers. It's the greatest time-saver since the micrometer!

price only $36.00 order today

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A division of National Cleveland Corporation
11300 Madison Avenue • Cleveland 2, Ohio

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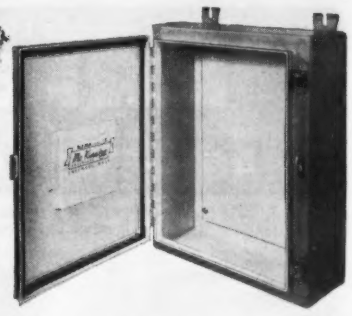
DUST-TITE MOISTURE-PROOF OIL TITE



McKINSTRY NEMA Type 12 PANEL ENCLOSURES

McKINSTRY Panel Enclosures built to NEMA Type 12 specifications give your electrical controls, terminals and instruments complete protection against oil, water coolants and extra protection in heavy dust-laden atmosphere. Before you buy, look into the complete line of McKINSTRY NEMA Type 12 Enclosures for quality materials and workmanship at reasonable prices.

Write: Dept. 20-L for new illustrated catalog and price list on complete line of McKINSTRY Enclosures and Fittings.

MMW McKINSTRY METAL WORKS, INC.
285 McKinstry Ave. • Chicopee, Massachusetts

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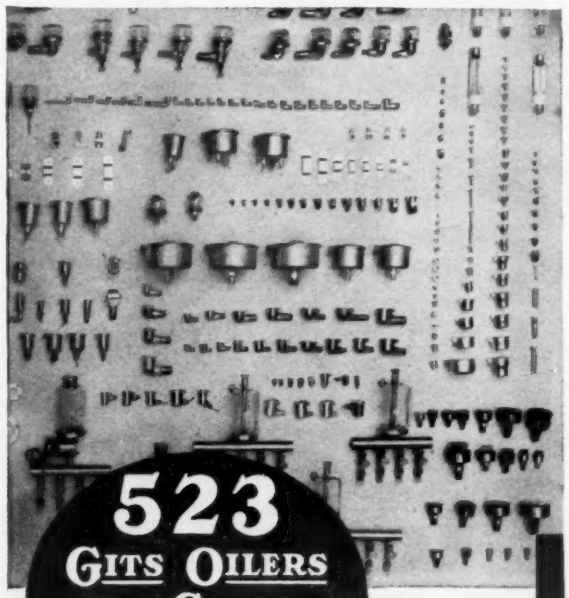
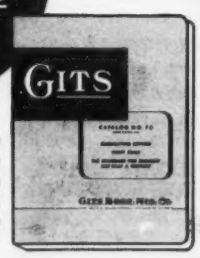


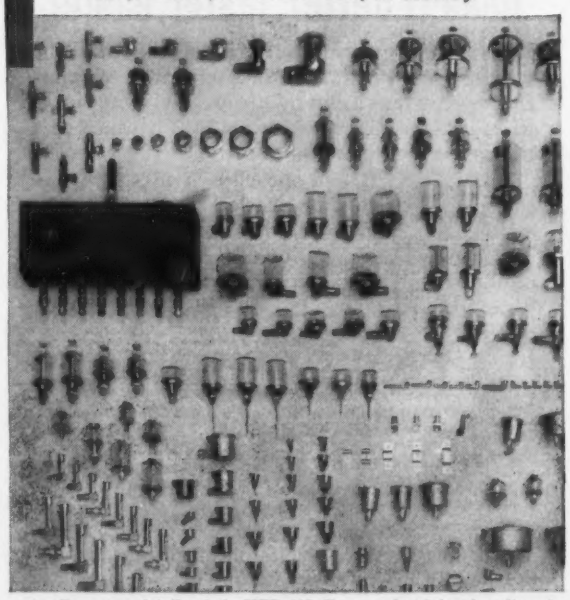
523 GITS OILERS AND GAUGES READY TO SHIP



Largest selection available anywhere. You save time and money, because the one you want is always right in stock. Send for complete Catalog.

GITS BROS. MFG. CO.
1833 S. Kilbourn Ave. Chicago 23, Ill.

Specialists in Lubricating Devices and Shaft Seals for Almost Half-A-Century



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ROTARY AIR GAST PRODUCTS

Six sizes . . . all variable speed, explosion-proof

GAST ROTARY VANE AIR MOTORS

Need compact, low cost power? For plant use and original equipment applications, Gast rotary-vane Air Motors offer these distinct advantages:

1. Explosion-proof power. No danger!
2. Low initial cost per rated h.p.
3. Variable speed with valve control.
4. Can't burn out from overloads.
5. Vanes take up their own wear.
6. Reversible rotation (opt.) 5 sizes.
7. Very compact — light in weight.
8. Top-quality ball-bearing design.

TYPICAL PERFORMANCE

Model No.	H.P. at 90 PSI 2000 RPM	Weight lbs.
1AM	0.13	1½
2AM	0.57	5½
4AM	1.1	8
6AM	2.0	17
8AM	4.0	25
16AM	7.0	65

Gast Manufacturing Corp.
P.O. Box 117 R
Benton Harbor, Mich.

Write for Bulletins — specify models!

GAST ROTARY
"Air may be your answer!"
• AIR MOTORS TO 7 H.P.
• COMPRESSORS TO 30 P.S.I.
• VACUUM PUMPS TO 28 IN.

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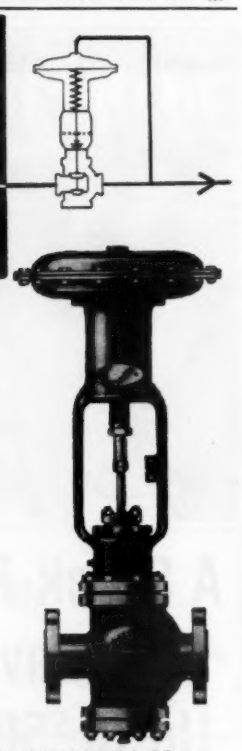
Need a Pressure Regulator?



CONSIDER FISHER Series 655

For simple and accurate regulation of steam, oil, gas or other fluids, you will find this self-operated controller can not be beat.

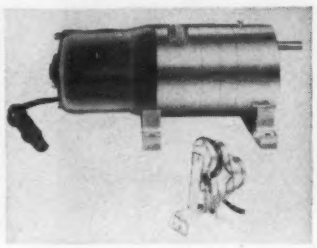
Suitable for pressure ranges between 1 and 150 psi for pressure reducing or pressure relief service. Sizes 1" to 6".

Write for Bulletin C-655.

FISHER GOVERNOR COMPANY
Marshalltown, Iowa • Woodstock, Ontario

▲ For more details circle NED-415 E on enclosed inquiry slip ▲

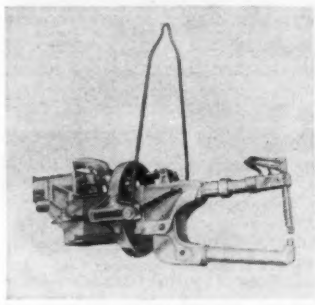
CENTRIFUGAL GOVERNOR detects speed of only ½ rpm



Capable of detecting speeds as low as ½ rpm, this Co-Rater centrifugal governor is suited for automatic shifting of machine tool transmissions, protection of low speed mixers and processors, and low speed military uses. Operation is based on differential measurement between known input speed and speed to be detected. Unit detects one or many low speed functions, with a single, or a high and low limit being detected on each speed. Each detector in the governor operates on speed alone, independent of voltage, load, or other environmental factors. • **Torq Engineered Products, Inc.**, 32 W. Monroe St., Bedford, Ohio.

▲ For more details circle NED-417 E on enclosed inquiry slip ▲

LARGE WELDING GUN spot welds up to 2 x 3/16 in.



Large size Model 510 portable spot welding gun is rated 18,000 amp and 1350 lb pressure. Air-operated and fully automatic, it is water cooled and will weld metals from the lightest gage up to 2 x 3/16 in. Gyroscopic suspension provides easy rotation in all directions. • **Guthery Machine Tool Corp.**, Aro Spot Welders Div., 38-31 Crescent St., Long Island City 1, N. Y.

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ELEVATED DRUM DUMPER pours materials at controlled rate

Operating at heights from 12 to 50 ft, this Cesco steel drum dumper empties drum contents into mixers, hoppers, tanks, chutes, conveyors, and other equipment. Easy loading, controlled dumping, and safe operation are features. Capacities range from 100 to 5000 lb. Units are suited for handling flowable bulk materials and heavy viscosity liquids. Heavy duty casters provide for moving unit about the plant. • **Conveyors & Dumpers, Inc.**, 365 Broadway, Hillsdale, N. J.

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accelerate production, improve accuracy, cut costs with TALLY-COUNT®

electronic PREDETERMINING COUNTER

what Tally-Count does — Counts an exact number of units to a container—determines precise footage from a roll—stops a machine at any number of shaft rotations—recycles a process after a desired number of operations have been completed. These functions (and many more) are accomplished *automatically*, at electronic speeds.

how Tally-Count works — Desired count is set on selector switches. External contacts or electronic pulses actuate Tally-Count. At pre-set count, a relay operates desired mechanism: solenoid, motor, cut-off knife, etc. Instant reset to zero for next "batch". Optional *plug-in* accessories: batch register, photoelectric eyes, footage counters, double and triple pre-set decades.

how Tally-Count saves — Speeds operation, eliminates guesswork, boosts production of any plant. Write for Brochure CC-5.

$245.00 for 2-decade unit — Add'l. decades up to five: $50 ea.

standard INSTRUMENT CORPORATION 657 BROADWAY, NEW YORK, N. Y.

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TO IMPROVE PRODUCTION YOU NEED SUCTION

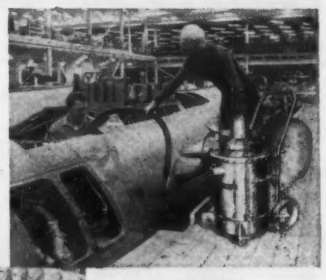
TORNADO® VACUUM THE NO. 1 CHOICE

SERIES 400

Smart management is using suction to remove unwanted dirt, chips, and waste from their product. What's more, they know Tornado gets the job done better, faster. It's the vacuum that can be moved quickly to any location for production or maintenance cleaning. Get the facts, write for Tornado bulletin 894-A, today!

CLEAN INTERIORS ON THE LINE

Airplanes, automobiles, appliances — assembly lines move quicker with Tornado at work.

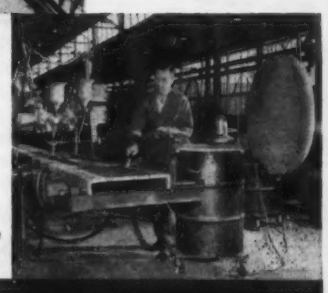


REMOVE PRODUCTION WASTE

Lint and dust are removed while production hustles. Use this same operation with machine tools to reclaim chips for salvage.

RECOVER WELDING FLUX

Production welding flux is expensive, why waste it? Tornado recovers the unused portion for reuse and big savings.



HAVE A FREE SUCTION SURVEY!
Just write and a Tornado expert will call at your convenience to show you how to "Improve your production—with suction."

BREUER ELECTRIC MFG. CO.
5116 N. RAVENSWOOD AVENUE • CHICAGO 40, ILLINOIS

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Best way to put good ideas into practice . . .

. . . is, in so many cases, by means of a wire form produced by Stanley-Humason. From critical parts of industrial machines and equipment to attractive novelties or useful products for the home, wire forms provide ideal answers to hundreds of different job requirements.

If you have a part or a product in the "idea" stage, call on Stanley-Humason. We have the knowledge, experience and complete engineering facilities to turn your idea into a practical design . . . and the production and finishing facilities needed to turn out completed wire-form products quickly and efficiently in any quantities.

FOR ADDITIONAL INFORMATION . . . send now for Engineering Data Sheets . . . or simply write outlining your ideas or requirements. Also available are Data Sheets on Stanley-Humason Fasteners, Coil and Flat Springs, Metal Stampings, Screw Machine Parts and Assembled Products.

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STANLEY®

SPRINGS • WIRE FORMS • STAMPINGS • SCREW MACHINE PRODUCTS • ASSEMBLIES

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For Faster, Better Soldering

Use Rubyfluid

RUBYFLUID'S better soldering flux—liquid or paste—assures you of strong, neat unions, quickly and easily. RUBYFLUID'S fast acting formula wets out freely . . . is free from objectionable and harmful fumes . . . is economical to use.
For stainless steel soldering, use RUBY's Special Stainless Steel flux . . . designed specifically for this application . . . requires no extra heat, no extra equipment, will not corrode or discolor metal.

RUBY CHEMICAL CO.
72 S. McDowell Street Columbus 8, Ohio

Rubyfluid

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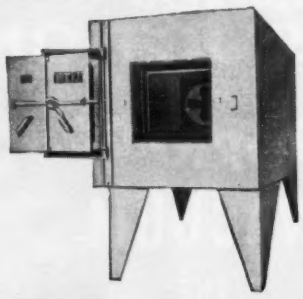
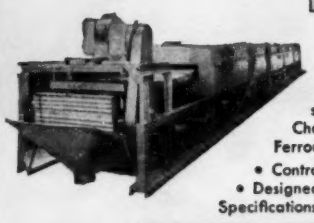
ELECTRIC FURNACES

Uniform, *Controlled* Heat to 2700°



ANNEALING FURNACES specially designed for Glass and Steel applications in production and laboratory. Temperature range up to 1400°F.



CONVEYOR FURNACES for Glass Annealing, Baking Resistors, Ceramic Molding, Chemical Drying, Annealing Ferrous and Non-Ferrous Metals.
• Controlled Heat up to 1850°F.!
• Designed and Built to Your Specifications!

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TRENT INC.
Electrically Heated Industrial Equipment
251 LEVERINGTON AVE., PHILADELPHIA 27, PA.
In Canada Supreme Power Supplies Limited, Toronto 14

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MAYLINE

Outstandingly Different!

The Mayline DESK-O-MATIC

A new desk height adjustable drafting table. Settings for top tilt and top height are made by the operator from his position at the front of the desk. *No other drafting desk has this convenience.*

Design Engineers will see and operate the Desk-O-Matic at their show in New York, May 23-26. Table completely described in Folder S-24. Send for your copy today.

MAYLINE COMPANY, INC.
617 No. Commerce St., Sheboygan, Wisconsin

MAYLINE

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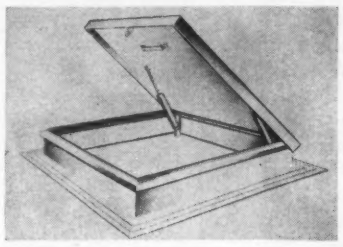
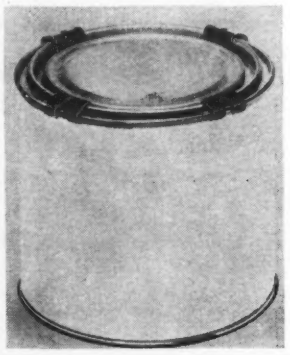
ROOF SCUTTLE
with aluminum or glass fiber top



Improved aluminum roof scuttles are Heliarc welded units for standard roof openings of 2½ x 3 ft and are fitted with either insulated aluminum or Marcolate glass fiber skylight tops. Built with improved fabrication techniques, scuttles feature a latching device. Price is $75. • Marco Co., 45 Greenwood Ave., East Orange, N. J.

▲ For more details circle NED-425 E on enclosed inquiry slip ▲

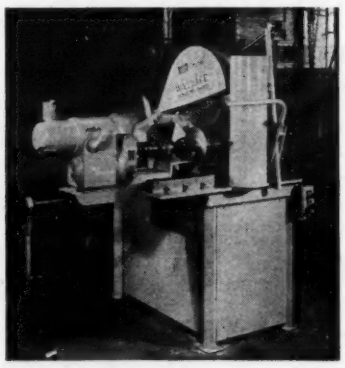
CAN LID CLIP
approved for cans sent by mail



Low-cost, time-saving alternative to soldering of lids to cans sent through the mail is provided by this can lid clip. It is installed with a press of the thumb or by hammering and is easily removed with a twist of a screwdriver. Clip is made in three sizes to fit all standard cans up to 1 gal capacity. It complies to postal regulations. • Anchor Chemical Co., 10721 Briggs Rd., Cleveland 11, Ohio.

▲ For more details circle NED-426 E on enclosed inquiry slip ▲

CASTING TRIMMING MACHINE
rotates casting as well as cutter



Fast, accurate cutting of risers from foundry castings is performed by the Roto-Trimmer modular cutting unit which rotates the casting as well as the abrasive cutting wheel. Chuck capacity is 9-in. OD by ½-in. wall stainless steel ring or 6-in. solid. Jaws adjust for inside or outside diameter grip. Chuck is laterally adjustable for 0 to 6-in. clearance from the index position so other material not to be chucked can be cut. Unit is powered with a 10 hp, 220/440-v three-phase 60-cycle motor with variable speed rotator and has a 16-in. abrasive wheel. • Wallace Supplies Mfg. Co., 1304 Diversey Parkway, Chicago 14, Ill.

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Use MOTO-TRUC

Moto-Truc pallet trucks are built to handle loads in tight places where larger trucks bog down. The standard model — PAL is only 28" longer than the load while the special short-coupled model — PAL-SC is only 24" plus load.

Able to turn in their own length, these tough little walkies are ideal for handling in freight cars, trucks, elevators, narrow warehouse aisles and crowded production areas.

WRITE TODAY . . . For full information on Moto-Truc pallet trucks.

The MOTO-TRUC Co.
1961 E. 59th STREET • CLEVELAND 3, OHIO

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FOR FAST TALK THAT PAYS OFF

your business needs...

ELECTRONIC AMPLICALL INTERCOMMUNICATION

the "clear line" to everyone in your business...

available with privacy handset, light and chime signals

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★ **See your Classified Phone Book under "Intercommunication" for the nearest AMPLICALL specialist—or write us direct for full details.**

RAULAND-BORG CORPORATION
3535-H Addison St., Chicago 18, Ill.

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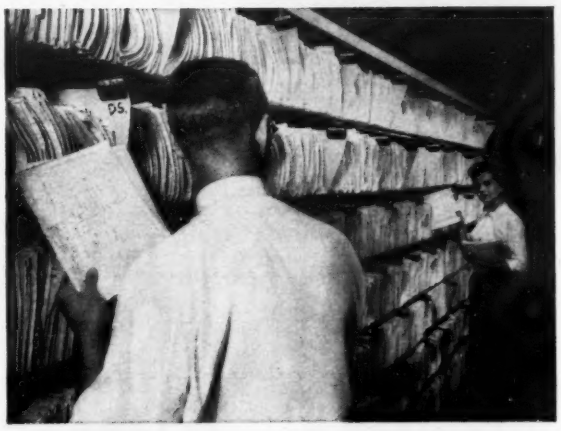
***thanks to* XEROGRAPHY...**



A Stock-Print System Saves You Up to $50,000 Yearly

You can save $50,000 or more a year by installing a stock-print system of engineering drawings. Cutler-Hammer Inc. of Milwaukee is achieving such an economy. So is Arma division, American Bosch Arma Corporation, Garden City, N. Y.

A stock-print system is a streamlined library of engineering drawings commonly in use. The library is unattended. Anyone who wants a drawing helps himself. There are no requisition forms, no waiting, no refiling. Prints are so inexpensive that engineers are urged to discard them after use.

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The answer is xerography and offset duplicating. Xerography is a clean, fast, dry, electrostatic copying process that within seconds reduces original drawings as large as 34" x 44" onto inexpensive offset paper masters. From them, multiple copies are run off on an offset duplicator.

There is a wide range of XeroX® copying equipment for setting up an efficient stock-print system. Your reproduction needs determine the xerographic model best suited to you. All models—besides preparing offset paper masters—make copies on plain, unsensitized paper or translucent vellum for diazo-type reproduction.

All models—whether manual or automatic—enlarge, reduce, or copy size to size. They offer the fastest, most versatile, most economical way to get sharp, clear copies from original documents of all kinds or from microfilm.

WRITE for proof-of-performance folders showing how companies of all sizes are speeding paperwork duplicating and saving thousands of dollars yearly by xerography.

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BRANCH OFFICES IN PRINCIPAL U. S. AND CANADIAN CITIES
Overseas: Rank-Xerox Limited, London, Eng.

HALOID XEROX®

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Measures Nonmagnetic Coatings with ± 5% ± .0001" accuracy

NEW pocket-size THICKNESS GAUGE

ELCOMETER measures thickness of porcelain enamel, paints, platings, foils, glass, paper, plastics, and other nonmagnetic coatings—quickly and accurately. Gauges flat or curved surfaces and hard-to-get-at spots easily. Needle-locking device assures correct reading every time. Available in twelve scale ranges with contact spheres, "V" block, or flat bases.

Complete with tough leather case, containing inner pocket for test strips, and carrying harness. Weighs only 6 oz.

ONLY $83.75 F.O.B. Cleveland

WRITE FOR ILLUSTRATED FOLDER
FERRO CORPORATION
4150 East 56th Street • Cleveland 5, Ohio

FERRO

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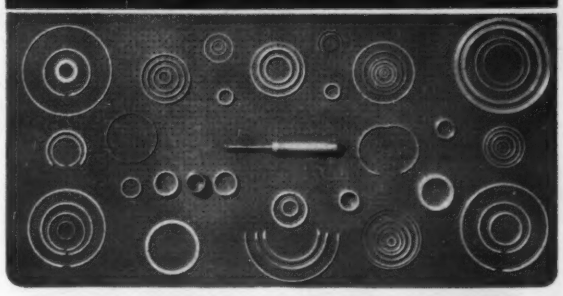
ELECTROLYTIC CAPACITORS
smallest is 0.150 x 0.060 in.

Tantalum wire anode in a silver case (cathode) and Mylar sleeving as insulation are incorporated in two Series TW electrolytic capacitors. Size TK is only 0.150 in. long by 0.060-in. diameter, yet provides capacitance up to 2 mfd. Size HK is 0.150 in. long, has a 0.075-in. diameter, and provides up to 3 mfd capacitance. • **Ohmite Mfg. Co.**, 3640 Howard St., Skokie, Ill.

▲ For more details circle NED-434 E on enclosed inquiry slip ▲

PISTON RINGS for every purpose



HYDRAULIC CYLINDERS
COMPRESSORS
STEAM ENGINES
DIESEL ENGINES
DIE CASTING MACHINES
SHAFT SEALS
AIRCRAFT—AN SCRAPERS
AND MANY OTHERS

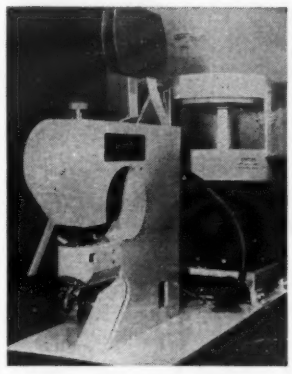
Auto-Diesel has specialized in piston rings since 1921. We have but one thing to offer you—Quality Piston Rings—to your specifications—delivered on time—at attractive prices.

1921 AUTO-DIESEL AD CLEVELAND 1959

Catalog on Request
THE AUTO-DIESEL PISTON RING CO.
3141 Superior Avenue • Cleveland 14, Ohio

▲ For more details circle NED-438 E on enclosed inquiry slip ▲

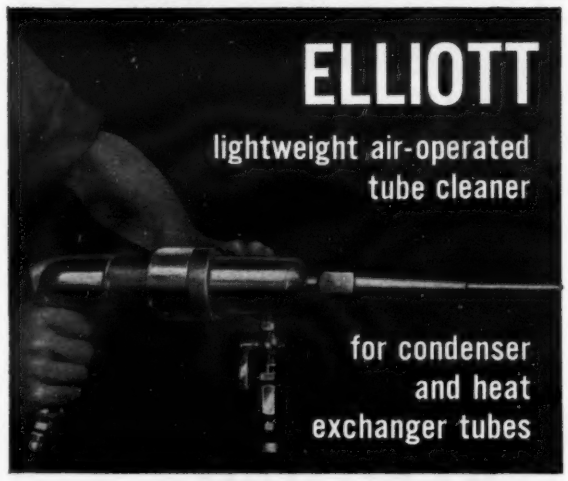
SQUEEZE RIVETER
sets rivets in brittle parts



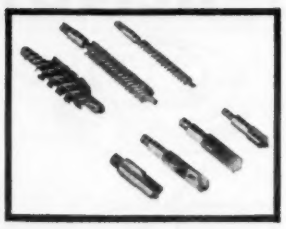
Length of stroke and stroke force of the Aidlin squeeze riveter can be varied for rapid and efficient setting of rivets in brittle parts. Table top machine need not be bolted down for riveting ceramics, phenolics, plastics, and fibers in printed circuit and other assemblies. It also squeezes tiny rivets by combining two of them in one frame. Work is swaged between upper and lower plungers so that riveting stresses are not transmitted to fragile work. Foot switch controlled machine handles pins from 0.032 in. up to ¼-in. diameter stainless steel rivets. • **Aidlin Automation, Inc.**, 1613 E. New York Ave., Brooklyn 12, N. Y.

▲ For more details circle NED-435 E on enclosed inquiry slip ▲

ELLIOTT
lightweight air-operated tube cleaner



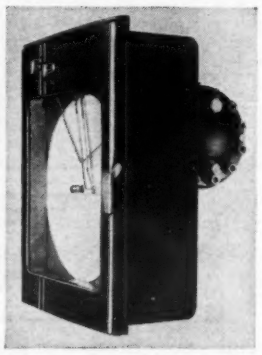
Pistol-grip, easy to handle. High-speed air-driven motor, trigger control, gear reduction to 1500 rpm. Speed governor prevents shaft whip. Built-in oil reservoir. Integral water-feeding attachment. Brushes and heads (right) for various cleaning requirements. Send for bulletin Y-48—covers all Elliott tube cleaners and accessories.



ELLIOTT Company
LAGONDA PLANT, Springfield, Ohio

▲ For more details circle NED-432 E on enclosed inquiry slip ▲

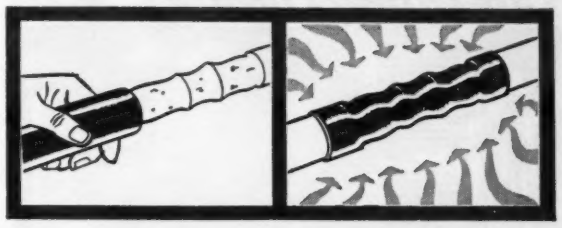
FLOWMETER
for both flow and liquid level uses



Differential pressure type metallic bellows flowmeter for both flow and liquid level applications is accurate within ½ of 1 per cent. Meter ranges from 0-20 to 0-300 in. of water are changed by a simple exchange of spring assemblies. Self-draining and self-venting meter body is rated 2000 psi in steel, 5000 psi in stainless steel. Instrument can be equipped for indicating and/or recording, as well as with a controller, totalizer, or pneumatic or electric transmitter. • **Fischer & Porter Co.**, 471 Jacksonville Rd., Warminster, Pa.

▲ For more details circle NED-436 E on enclosed inquiry slip ▲

NEW PLASTIC DISCOVERY



Slips on loose... Shrinks with heat

SCOTCHTITE BRAND
HEAT REACTIVE TUBING

Now you can add a tough, smooth protective vinyl covering to handles, levers, tubes, wires, rods, even odd shapes with "SCOTCHTITE" Heat Reactive Tubing. Just slip "SCOTCHTITE" Tubing over object to be covered—apply heat—and almost immediately the tubing contracts to form a skin-tight seamless wrapping. Tools, cables, coils, pipes, and flexible conduit are just a few of the many possible applications. "SCOTCHTITE" Heat Reactive Tubing is available in sizes from 3/64 up to 5¼ inches in diameter. WHAT CAN YOU DO WITH "SCOTCHTITE"? Write for free sample and complete information to: Irvington Division, 3M Company, 900 Bush Avenue, St. Paul 6, Minn., Dept. EBM-50.

"SCOTCHTITE" IS A REGISTERED TRADEMARK OF 3M CO., ST. PAUL 6, MINN. EXPORT: 99 PARK AVE., NEW YORK 16. CANADA: LONDON, ONTARIO

MINNESOTA MINING AND MANUFACTURING COMPANY
...WHERE RESEARCH IS THE KEY TO TOMORROW

▲ For more details circle NED-439 E on enclosed inquiry slip ▲

in SAFETY and RELIABILITY
with new **Square D Combination Starter**

EXTRA SAFETY!
Operating handle permanently attached to switch. Visible Blades on switch for safety you can *see*. Double protection against opening door with handle "ON."

REAL RELIABILITY!
NEMA 5-12 construction keeps out dust and coolant. No linkages to go wrong. Door closes snugly every time. Rugged construction throughout for extra-long life.

Write for details. Square D Company, 4041 North Richards Street, Milwaukee 12, Wisconsin

SQUARE D COMPANY
wherever electricity is distributed and controlled

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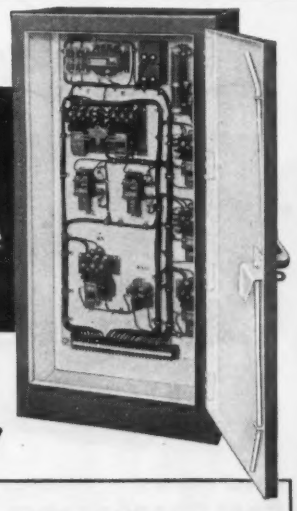
feature for feature...
THIS NEW SQUARE D VOLTAGE TESTER
Tops them ALL!

for further details, write Square D Company, 1601 Mercer Road, Lexington, Kentucky

SQUARE D COMPANY
wherever electricity is distributed and controlled

▲ For more details circle NED-437 E on enclosed inquiry slip ▲

new
EC&M "VL" crane control



Designed Specifically for Light Industrial AC Cranes

• Smoother, more efficient performance than manual control • Controllers front-connected and wired for easy inspection and maintenance • No separate protective panels needed • Controllers are compact and have vertical-action contactors

Write for Bulletin 6431
Square D Company, EC&M Division
4500 Lee Road, Cleveland 28, Ohio

SQUARE D COMPANY
EC&M DIVISION • CLEVELAND 28, OHIO
wherever electricity is distributed and controlled 2727

▲ For more details circle NED-440 E on enclosed inquiry slip ▲

CUT COSTS with FIR PLYWOOD

Stressed skin plywood panels provide low-cost computer floor at Hughes Aircraft, Fullerton, Calif. The remodeled room was designed by Hughes engineers for a 20-machine installation. Four-by-four floor panels have top and bottom fir plywood skins glue-nailed to lumber framing. Panels are strong and stiff, yet light enough for easy removal for access to under-floor cables. They rest on a grid of posts and 2x4's over the old floor.

Only plywood with DFPA grade-trademarks is made and tested under industry-wide Douglas Fir Plywood Association quality control program. Look for letters DFPA on the panel.

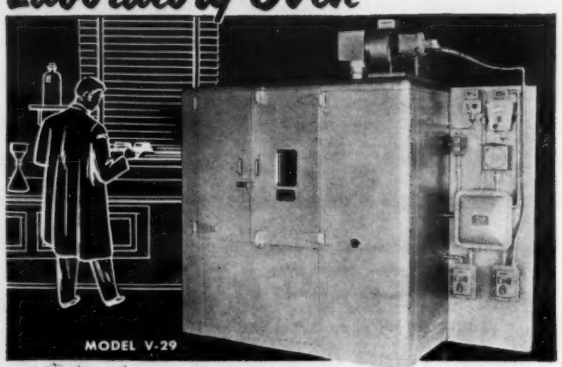
DFPA TESTED QUALITY

Write for New File Folder Catalog

DOUGLAS FIR PLYWOOD ASSOC., DEPT. 181, TACOMA 2, WASH.

▲ For more details circle **NED-441 E** on enclosed inquiry slip ▲

NEW DESPATCH SAF-T-BILT *Laboratory Oven*



Safety Features—encased explosion relief panel on back of unit. Safety chain on front door plus safety door latch. Forced exhaust system dissipates volatiles. Heavy duty observation glass window. Available in work chamber sizes to 37" x 25" x 37".

Available with Temperatures 500°F—650°F—850°F

Precision engineered to give temperature uniformity in the work chamber. Saf-T-Bilt Laboratory Ovens provide fast pre-heat and recovery to speed heat process operation. Available with temperatures to 500° F—650° F—850° F. Where safety is a factor Saf-T-Bilt Ovens can become completely explosion proof by substituting steam or hot water for electrical heat. Model illustrated is electrically heated.

Write today for complete catalog of laboratory ovens.

DESPATCH OVEN CO.

DESPATCH OVEN CO. 611 S. E. 8th Street, Minneapolis, Minn.

▲ For more details circle **NED-442 E** on enclosed inquiry slip ▲

Colletta

JAGENBERG

PORTABLE BENCH LABELER

Handles wide range of shapes and sizes • Blister-free Application Fast Changeovers • Precision Built

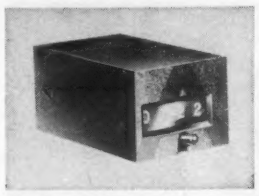
Write for bulletin No. 138

PNEUMATIC SCALE CORPORATION, LTD., 71 Newport Avenue, Quincy 71, Massachusetts. *Sales Offices: New York; Chicago; Dallas; Rochester. Agents: Fred Todt Company, Los Angeles, San Francisco and Seattle; Rockwell Pneumatic Scale Ltd., London N. W. 2, England; O.R.M.A. Paris, France. Subsidiaries: Delamere & Williams Co., Ltd., Toronto; Carbert Manufacturing Co., Inc., Cambridge, Mass.*

PNEUMATIC *Packaging and Bottling Equipment*

▲ For more details circle **NED-443 E** on enclosed inquiry slip ▲

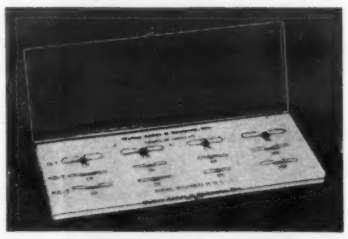
MINIATURE COUNTER
registers 1800 counts per minute



Actuated electromagnetically, this single stroke reset miniature counter is an additive, four-digit type which records pulses accurately at up to 1800 per minute. The 3½-oz unit measures 2 x 1¼ x 15/16 in., and its Cycolac case is designed for nesting or stacking. Counters are available for 6, 12, 24, and 100 v dc operation and withstand extreme vibration, shock, and temperature. • **Abrams Instrument Corp.**, 606 E. Shiawassee St., Lansing 1, Mich.

▲ For more details circle **NED-444 E** on enclosed inquiry slip ▲

THERMISTORS
150-600° C maximum temperatures



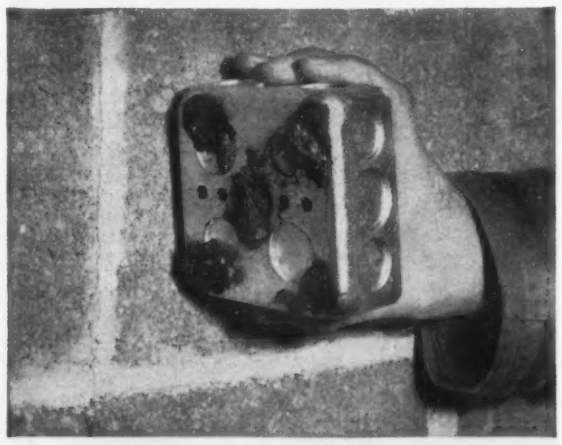
Type K thermistors have resistance from 1 to 100 kilohms at 25° C and operate at ambient temperatures up to 300° C. Units are also available for use to 600° C. Type D disc thermistors are offered with 0.1 to 100 kilohm resistances at 25° C; maximum operating temperature is 150° C. Both types have resistance tolerances of ±20 per cent, with closer tolerances available on special order. Several styles of Type K units have a 0.060-in. body diameter, a time constant of 18 sec in still air, and tinned or bare leads. Diameter of Type D disc thermistors is 0.250 in. and their time constant is 26 sec. • **Walter Kidde & Co.**, 675 Main St., Belleville 9, N. J.

▲ For more details circle **NED-445 E** on enclosed inquiry slip ▲

VACUUM PARTS LIFTER
feeds, removes punch press work

Metal, plastic, fiber, glass, tile, linoleum, and other nonporous materials are easily handled by this manual vacuum lifting tool. Suited for feeding and removing work from punch presses, it lifts and holds parts securely, releasing them with a touch of a thumb lever. The 15-in. long handle eliminates need to reach under the press ram. Device also protects hands from burrs and sharp edges and keeps soil and perspiration from marking polished surfaces. Cup diameters are 1½, 2½, and 4 in. • **Safety Vacuum Lifter Co.**, 321 Elm St., Trenton 10, N. J.

▲ For more details circle **NED-446 E** on enclosed inquiry slip ▲



New Permacel Junction Box Mount epoxy adhesive

. . . the fast, easy way to attach junction boxes to any surface

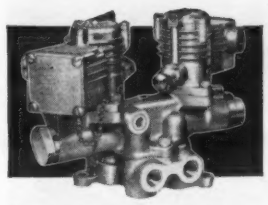
PERMACEL

NEW BRUNSWICK, NEW JERSEY

TAPES • ELECTRICAL INSULATING MATERIALS • ADHESIVES

▲ For more details circle **NED-447 E** on enclosed inquiry slip ▲

no coil burnout with SPEED KING®



PILOT OPERATED CONTROL VALVES

Built to JIC standards • interchangeable pilots • choice of mounting types, optional features • ac or dc, any voltage • ¼ to 1 in. NPT.

SPEED KING solenoid pilot coils, potted in molded resin, are unconditionally guaranteed against coil burnout for the life of the valve!

And, SPEED KINGs are totally enclosed, sealed against entrance of dirt or moisture . . . are fully air-operated, for speed and dependability . . . feature a hard-chrome plated stainless steel plunger floating in O-rings, to eliminate wear-producing metal-to-metal contact.

For multi-million cycle dependability, specify Valvair® SPEED KING control valves.

8007

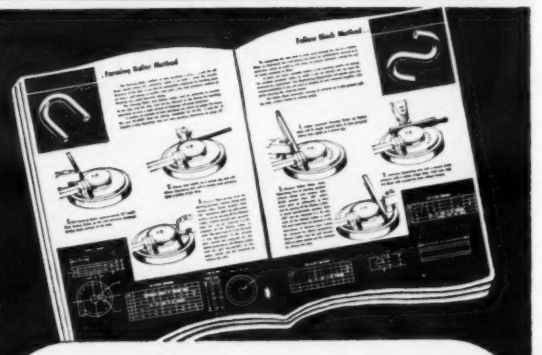
Write for free Bulletin D-58. Address: Valvair Corp., Akron 11, Ohio, Dept. NED-560.

Valvair AKRON 11, OHIO

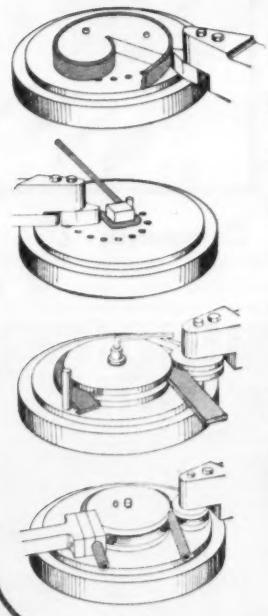
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

Other INDUSTRIAL DIVISIONS of IBEC: The Sinclair-Collins Valve Co., The Bellows Co., Akron, Ohio • V. D. Anderson Co., Cleveland, Ohio.

▲ For more details circle **NED-448 E** on enclosed inquiry slip ▲



How to form it by BENDING...



Free Manual shows techniques of forming round, square, or hex bar stock . . . tubing . . . channel . . . angle . . . flat and other materials.

It's easy to bend a wide variety of material when you know how—profitable too because bending can simplify product design—make one curved piece do the job of two or more. Bending can improve product appearance and lower your production costs!

This 32-page illustrated manual shows how to make center eye and off center bends, circles, zero radius bends, scrolls, squares, springs and coils, loops and spirals—all with *one versatile machine*. Booklet also tells how to tool for tubular, channel, angles and other special bending needs.

Order your free copy today. Consult the yellow pages of your phone book under Machinery, Machine Tools for the name of your Di-Acro distributor or write us.

Find Us Fast In The Yellow Pages

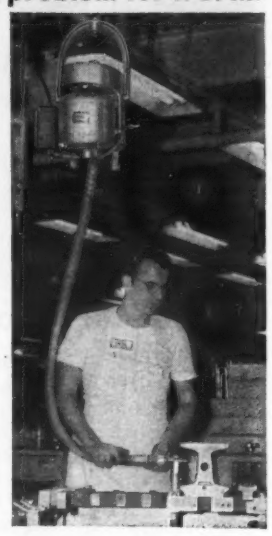
di-acro PRECISION METALWORKING MACHINES

O'NEIL-IRWIN MFG. CO.

354 8th Avenue, Lake City, Minnesota

▲ For more details circle **NED-449 E** on enclosed inquiry slip ▲

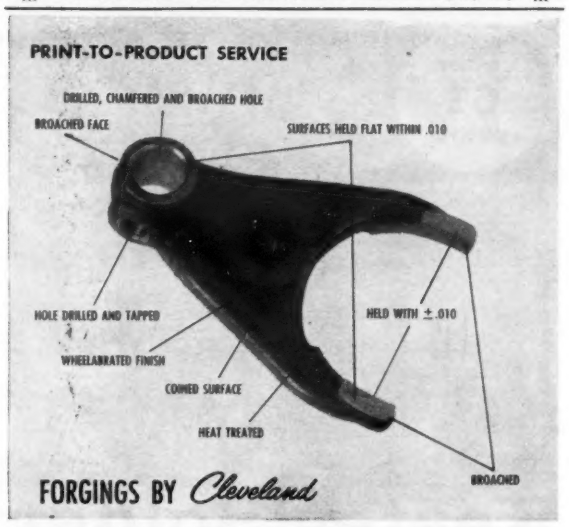
suspension type FLEXIBLE SHAFT MACHINE eliminates tooling problem for I. B. M.



International Business Machines Corporation had the problem of reaming holes .813" in diameter in the mounting hanger on the main base of their 407 Accounting Machine. To eliminate expensive tooling for this operation, they selected a STOW V50 portable flexible shaft machine, specially fitted with an on-off switch mounted on the handpiece.

The V50 machine delivers 1150, 2100, 3450 or 5750 RPM, is furnished with a 6-foot flexible shaft. Other speeds can be achieved by using different size pulleys. (I. B. M. ran the reamer at 750 RPM.) Available in either ¾, 1, 1½ or 3 HP, the V50 can be used for grinding, buffing, sanding, wire brushing and drilling. **Stow Manufacturing Co.**, 26 Shear Street • Binghamton, New York. *Advt.*

▲ For more details circle **NED-450 E** on enclosed inquiry slip ▲



How many of these steps does your product need?

If you can use skills and close tolerances like these, write for information to *Forge & Fittings Division, H. K. Porter Company, Inc., 3270 East 79th Street, Cleveland 4, Ohio.*

FROM A SINGLE SOURCE:
FORGINGS . . . Hammer, Press, Upset
MACHINING . . . Broaching, Milling, Turning, Drilling, Grinding
FINISHING . . . Heat Treating, Assembling, Painting, Plating

FORGE & FITTINGS DIVISION PORTER *H.K.PORTER COMPANY, INC.*

PORTER SERVES INDUSTRY with 14 DIVISIONS including: Thermoid, Delta-Star Electric, National Electric, Peerless Electric, Riverside-Alloy Metal, Refractories, Connors Steel, Vulcan-Kidd Steel, Forge and Fittings, Coldform, Disston, Leschen Wire Rope, H. K. Porter Company de Mexico, S. A., and H. K. Porter Company (Canada) Ltd.

▲ For more details circle **NED-451 E** on enclosed inquiry slip ▲

New Sealed Aluminum Hoist Line means easy lifting in any weather!

Efficient hoist performance is assured by sealing out moisture, oils, chemicals and dirt from the brake mechanism. Five seals provide permanent protection under exposure conditions.

Lifting is easy with the Coffing Sealed Disk Brake Lever Hoist because the handle pull to lift rated load requires only 57 pounds with the ¾-ton model to 93 pounds with the 6-ton model. Load spotting is precise—to within minute fractions of an inch. Sealed brake will not slip. Six models—¾ to 6-tons.

The high strength aluminum alloy frame is light—makes for easy portability. Ask your distributor or write for Bulletin ADH-78.

MA-15 ¾-ton

COFFING HOISTS
DUFF-NORTON COMPANY
803 Walter Street • Danville, Illinois

▲ For more details circle **NED-452 E** on enclosed inquiry slip ▲

DISPOSABLE PLASTIC GLOVES resist acid, oil, chemicals, paint

Costing only 3½ cents each, disposable plastic gloves are made of chemical resistant polyethylene. They are prepowdered to slip easily on hand. Gloves have fine welded edge seams, are thin enough to retain the sense of touch, and are usable by inspectors, dye handlers, electronic and metal parts handlers, painters, and hundreds of others in industry. Free sample is offered. • **Busse Plastics Co.**, 64 E. Eighth St., New York 3, N. Y.

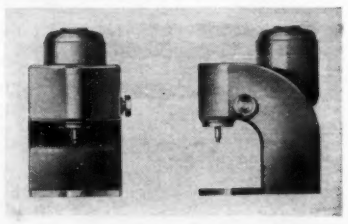
▲ For more details circle **NED-453 E** on enclosed inquiry slip ▲

LINEAR SCALE THERMOMETERS for temperatures from 0 to 200° C

Utilizing the Beckman expanded scale meter as the basic unit, linear scale thermometers are available in models ranging from battery-powered, portable styles to ruggedized and sealed panel-mounting instruments. Probes for measuring temperature of gases, liquids, or solids are available. Accuracy to ±0.5° C is assured for temperatures from 0 to 200° C and standard expansions of ±25° C maximum or ±10° C minimum. Input for panel-mounting models is 6 v ac or dc, minimum. Maximum power dissipation on all models is 1/10 w. • **Beckman Instruments, Inc.**, Helipot Div., 2500 Fullerton Rd., Fullerton, Calif.

▲ For more details circle **NED-454 E** on enclosed inquiry slip ▲

PORTABLE ARBOR PRESS for small assembly work



Small assembly work and fabricating jobs demanding 50 to 1500-lb pressure are handled by this 150-lb portable arbor press. It has a 4-in. stroke, 1-in. ram, and 5½-in. throat. Built-in hydraulic power unit is powered by a ¾-hp, 110-v 60-cycle motor. Other electrical ratings are available. Press is offered with hand lever, pushbutton, or foot controls, as well as automatic controls for synchronizing it with other machine tools. To provide unlimited throat dimension, press is supplied without base, but with mounting lugs for positioning where desired. • **John S. Barnes Corp.**, 315 S. Madison St., Rockford, Ill.

▲ For more details circle **NED-455 E** on enclosed inquiry slip ▲

AGAIN . . . Coffing Brings You a New Line of Hoists

The new Safety Pull Aluminum Ratchet and Pawl Lever Hoist is easy to operate—requires minimum handle pull. It may be operated from either side, and the design prevents freezing a load.

Safety has been built into the hoist. It will not ratchet under load if handle is released nor will it free chain. Controls are protected from inadvertent shifting. The bottom stop eliminates any hazard from the handle being released unintentionally. The exclusive safety handle bends to indicate overload.

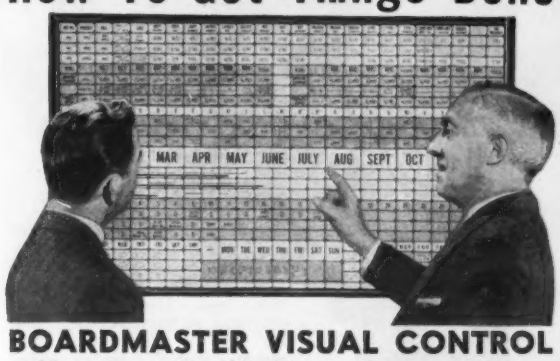
Strength without excess weight in the new hoist is achieved by a special aluminum alloy which is used in the body and handle.

Available in six models with capacities from ¾ to 6 tons. Ask your distributor or write for Bulletin ADH-86.

COFFING HOISTS
DUFF-NORTON COMPANY
803 Walter Street • Danville, Illinois

▲ For more details circle **NED-456 E** on enclosed inquiry slip ▲

How To Get Things Done



BOARDMASTER VISUAL CONTROL

Gives you a Graphic Picture of your operations, spotlighted in color. You See what is happening at a glance. Facts at eye level—save you time, prevents errors.

Simple, flexible—easily adapted to your needs. Easy to operate. Type or write on interchangeable cards, snap in grooves. Ideal for production, scheduling, sales, traffic, inventory, etc. Made of metal. Compact, attractive.

Complete Price $49.50 Including Cards

FREE 24-Page Illustrated Booklet N-300 Mailed Without Obligation

GRAPHIC SYSTEMS Yanceyville, North Carolina

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HOW TO USE ROTAC®

RECIPROCATING ROTARY
TORQUE ACTUATORS

Free—New 20-page book EVERYTHING YOU'LL WANT TO KNOW ABOUT ROTAC—How It Works • Control • Applications and Special Uses • Installation Details • Complete Dimensions and Torque Ratings • Helpful Ideas on How You Can Use ROTAC in *Your* Operation.

60-4

XLO
EX-CELL-O FOR PRECISION

EX-CELL-O CORPORATION GREENVILLE PLANT GREENVILLE, OHIO

▲ For more details circle **NED-458 E** on enclosed inquiry slip ▲

Coffing Quik-Lift Electric Hoist . . . 20 models from 1/4 to 2 tons

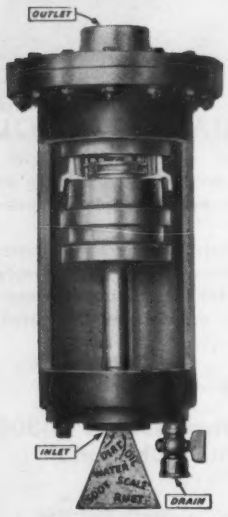
The new Coffing Quik-Lift coil chain electric hoist is easy to operate and light to handle. The aluminum housing is in sections for quick access to change voltages, limit switch, type of suspension or chain. The pistol-grip, push-button control permits up or down operation while pulling trolley mounted hoists. V-type brake gives maximum braking surface. Lubrication is sealed in for life.

For details consult your Coffing Hoist Distributor or write for Catalog ADH-65. **Coffing Hoist Division of Duff-Norton Company, 803 Walter St., Danville, Ill.**

▲ For more details circle **NED-459 E** on enclosed inquiry slip ▲

END AIR LINE MOISTURE PROBLEMS!

get the **CLEANEST, DRIEST** *compressed air!*



No more air line freezups with the CMD Textite Separator. *No* moving parts, *no* filters make Textite virtually maintenance-free. Use this proven separator to prevent rust, washing out of lubricants, worn gaskets, scored cylinder walls, clogged nozzles and costly equipment repair. Especially effective for keeping paint and finishing lines dirt and moisture-free.

NO MOVING PARTS . . . NO FILTERS TO REPLACE!

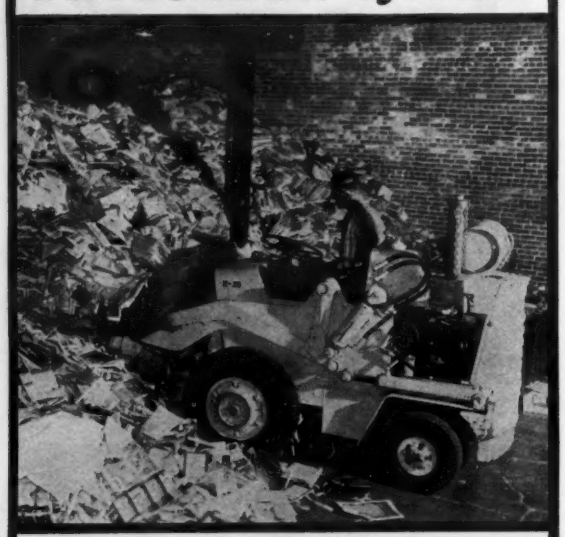
SEND FOR CATALOG...

Contains complete details, all essential ordering information. Send for your copy today!

CHICAGO MANUFACTURING & DISTRIBUTING CO.
1902 W. 46th St. • Chicago 9, Ill.

▲ For more details circle **NED-460 E** on enclosed inquiry slip ▲

PAYLOADER® system



for any bulk materials

This Model H-25 "PAYLOADER" tractor-shovel is handling old magazines and saving substantial time and money over former methods for Simpson Paper Co., Division of Simpson Lee Co., Lowell, Washington.

Adaptable — Only one man is needed to operate a "PAYLOADER" and, without special or expensive installations, it works indoors or outdoors, on paved or unpaved surfaces with equal efficiency.

It digs and carries 2,500-lbs. low and close with good balance and fullest operator visibility. Power-steering and only 6-ft. turning radius, power-shift transmission with torque-converter drive, and powerful hydraulic brakes all assure the operator of safe, easy and accurate control. He can maneuver around corners, through narrow aisles, doorways and crowded yards, up and down ramps with speed and safety.

There is a Hough Distributor nearby ready to show you how the Model H-25 or any other "PAYLOADER" unit (up to 12,000-lb. operating capacity) can increase output on your bulk handling work. Contact him today or write for complete details.

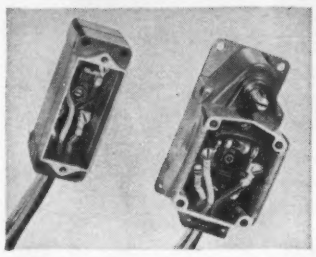
5-A-5

HOUGH®

THE FRANK G. HOUGH CO.
LIBERTYVILLE, ILLINOIS
SUBSIDIARY — INTERNATIONAL HARVESTER COMPANY

▲ For more details circle **NED-461 E** on enclosed inquiry slip ▲

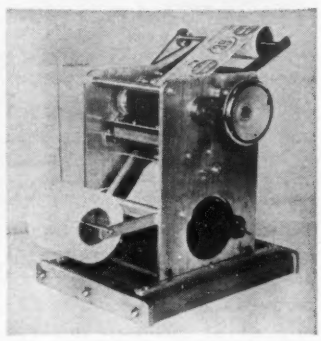
SEALED LIMIT SWITCHES
withstand liquids and dust



Type AW small precision and Type T heavy duty limit switches are now available in potted form for use under conditions of dust, liquids, and foreign matter. They are prewired, and the conduit entrances are sealed with epoxy resin. Four No. 14 wires 5 ft long are standard, with other lengths to order. Special screws can be supplied to prevent unauthorized access to the switch. • **Square D Co.**, 4041 N. Richards St., Milwaukee 12, Wis.

▲ For more details circle **NED-462 E** on enclosed inquiry slip ▲

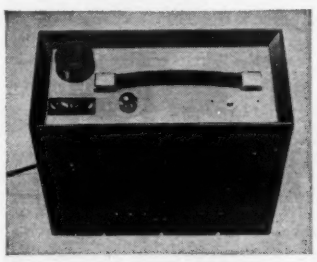
LABEL MAKER
prints, cuts up to 5 x 6-in. label



Labels from 1 x 1 up to 5 x 6 in. are printed in brilliant colors and cut in one operation by Model 6056 Flexographic label making unit. It will print and diecut on pressure-sensitive paper with backing and print and scorecut on pressure-sensitive paper with backing, heat seal, water soluble gum, plain paper, foil, tag, and starched cloth. The 115-lb unit has a 112-rpm speed and is simple to operate. Printing plates and colors are changed in seconds. • **Sohn Mfg., Inc.**, Elkhart Lake, Wis.

▲ For more details circle **NED-463 E** on enclosed inquiry slip ▲

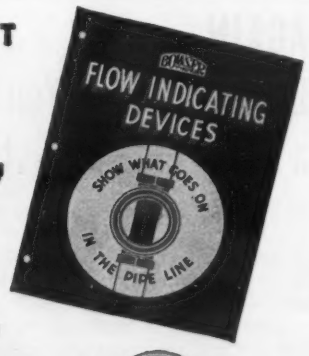
POWER ISOLATOR
output and voltage-ground isolated



Oscilloscopes, voltmeters, amplifiers, signal generators, power supplies, and other types of line - operated test equipment are served by the Model 30 power isolator. A feedback isolation circuit and a shielded transformer deliver up to 300 va output that is isolated from line voltage and line ground. Input is 115 v, 60 cycles, ac. Isolation is of such magnitude that only milli-microamps of 60-cycle line current can flow from its output to line ground. Portable unit measures 12 x 11 x 6 in. • **Moeller Instrument Co.**, Electronics Div., 132nd Street & 89th Avenue, Richmond Hill 18, N. Y.

▲ For more details circle **NED-464 E** on enclosed inquiry slip ▲

THIS BOOKLET "FLOW INDICATING DEVICES" IS YOURS



. . . CONTAINS DATA ON WIDE SELECTION OF FLOW DEVICES SUCH AS:

Fig. 54A Flow Sight

Fig. 816 Teleflo Indicator

Fig. 811 Flow Indicator

Plant and product engineers have relied on Bowser, liquid handling specialists since 1885, for prompt service. For sight glasses in single or double-window types, gravity or pressure models; or for electric or mechanical indicators . . . there is a Bowser man nearby ready to help you . . . quick!

PRODUCT OF BOWSER RESEARCH

WRITE FOR FLOW DEVICES BOOKLET } ***Contains Complete Specifications***

BOWSER, INC., 1381 E. CREIGHTON, FT. WAYNE, IND.

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Speeds Vacuum Handling

Newest of Whiting Pressuregrip vacuum lifters, UNI-GRIP offers an economical way to cut machine feeding costs. Under one-man control, it lifts, spots, feeds objects as heavy as 2,000 lbs. . . . smooth surfaces or rough. Powerful single gripper is quickly changed to new size, or to multiple gripper bar. Reserve vacuum tank assures safety. Save manhours . . . cut handling costs! Write today for facts! *Whiting Corporation, 15660 Lathrop Avenue, Harvey, Illinois.*

WHITING

▲ For more details circle **NED-466 E** on enclosed inquiry slip ▲

after 61 years

"SMART" SOLDERING STARTS WITH THIS SPOOL!

Kester Solder

KESTER FLUX-CORE SOLDER is always first choice with those who know solder. They like the way it helps keep production costs in line, speeds assembly, assures dependable performance. Yes, American industry is sold on Kester . . . how about you?

WRITE today for free Kester 78-page technical manual, "SOLDER . . . Its Fundamentals and Usage."

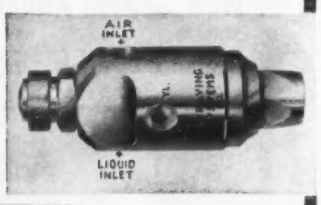
KESTER SOLDER COMPANY
4249 Wrightwood Avenue • Chicago 39, Illinois
Newark 5, New Jersey • Brantford, Canada
Anaheim, Calif.

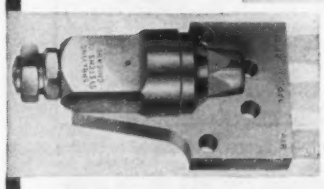
Over 60 Years' Experience in Solder and Flux Manufacturing

▲ For more details circle **NED-467 E** on enclosed inquiry slip ▲

pneumatic atomizing

SPRAY NOZZLES





for **AUTOMATION**

Spraying Systems offers a complete selection of automatic pneumatic atomizing nozzles for use where controlled intermittent spraying is required. In-built shut-off valve is air operated. Precision built for exact control of spray type and volume. Compact and easily installed. Write for Catalog 24.

SPRAYING SYSTEMS CO. 3211 Randolph St. • Bellwood, Ill.

FOR EASIER SPRAY NOZZLE INSTALLATION in any type of system . . . see Catalog 24 for Spraying Systems Adjustable Joints . . . and Bulletin 93 for the NEW Spraying Systems Split-Eyelet Connectors.

▲ For more details circle **NED-468 E** on enclosed inquiry slip ▲

The Metron 3 in 1 HAND TACHOMETER...

The most CONVENIENT
most ACCURATE
most READABLE
WAY TO MEASURE SPEEDS OF YOUR MACHINES

3 sliding-scale ranges in 1 instrument!

It's more *readable*—you see only one set of scale numbers at a time. It's more *dependable*—has a simpler operating principle. You switch quickly to any of 3 "sliding scale" ranges. You cannot damage by overspeeding. You get steady readings—electric cable prevents instrument vibration.

For full details write for bulletin 103

Metron INSTRUMENT COMPANY
436 Lincoln St., Denver 3, Colo.
DISTRICT OFFICES • NEW YORK • CHICAGO • CLEVELAND

▲ For more details circle NED-469 E on enclosed inquiry slip ▲

Tempilstik°

*temperature indicating crayons**

*Also Tempil° Pellets and Tempilaq° (liquid form)

Tempilstik°—a simple and accurate means of determining preheating and stress relieving temperatures in welding operations. Widely used in all heat treating—as well as in hundreds of other heat-dependent processes in industry. Available in 80 different temperature ratings from 113°F to 2500°F . . . $2.00 each.

Send for *free* sample Tempil° Pellets. State temperature desired . . . Sorry, no sample Tempilstiks°.

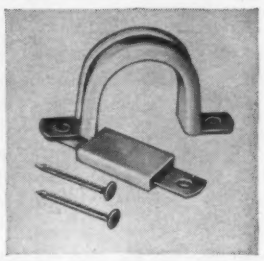
Most industrial and welding supply houses carry Tempilstiks° . . . If yours does not, write for information to:

ADVERTISING DIVISION

Tempil° CORPORATION
132 West 22nd St., New York 11, N. Y.

▲ For more details circle NED-470 E on enclosed inquiry slip ▲

COPPER TUBE HANGER
stops expansion, contraction noise



Liner of plastic built into the Inso-Line Glide Clip permits smooth, silent copper tube movement while holding it firmly in place. Noise due to expansion and contraction is eliminated in hot water heating or supply lines. Hanger's insulation liner also prevents electrolysis and corrosion and withstands temperatures to 280° F. Sizes from ½ to 1¼ in. are offered with copper-clad nails. • **American Tube Products, Inc.**, West Warwick, R. I.

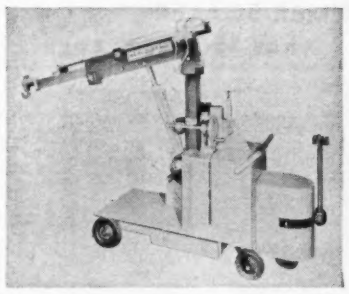
▲ For more details circle NED-471 E on enclosed inquiry slip ▲

VIBRATOR MOUNT
affixes rotary vibrators on chutes

This locking wedge mount for rotary vibrators securely engages in the female portion on hopper car chutes without the need for sledge hammering. It is designed to eliminate the problems of "creep-out" existing in old-style vibrator brackets. Mount is removed easily with a 2-lb hammer swung horizontally to drive key back into an appropriate slot. Mount weighs 25 lb and retails for $40. It is shown holding a car-shaker Vibrolator on a hopper containing a caked meal. • **Martin Engineering Co.**, Nedlow Street, Neponset, Ill.

▲ For more details circle NED-472 E on enclosed inquiry slip ▲

2½-TON MOBILE CRANE
positions load to 0.010-in. accuracy



Precision controlled Herculift M-10 mobile crane can lift and spot loads up to 2½ tons to an accuracy of 0.010 in. in vertical, longitudinal, and crosswise directions of travel. Boom extends 6 ft beyond chassis to reach over obstacles, and can be raised 9 ft from floor. Manually driven or battery propelled models are suited for handling and loading tools, dies, fixtures, and heavy equipment. Propelled unit shown features fluid coupling for smooth starts, plus a deadman brake and plastic or rubber tired wheels. Universal clamp and trailer attachment are among options. • **Colson Corp.**, 7 S. Dearborn, Chicago, Ill.

▲ For more details circle NED-473 E on enclosed inquiry slip ▲

956 different motorized speed reducers

available from stock

Yes! 956 different combinations of Perfection Motorized Worm Gear Speed Reducers are available for immediate delivery, *from stock*. Ratios range from 5 to 1 to 60 to 1, in capacities from ⅙ H.P. to 5 H.P. Perfection "C" Flange Reducers may be ordered complete with motor or without motor, to be used with a motor *of your own choice*. Write for free copy of our new 28 page catalog No. M-140.

Licensed under Pat. 2,868,031

AMERICAN STOCK GEAR DIVISION
PERFECTION GEAR COMPANY HARVEY, ILLINOIS

▲ For more details circle NED-474 E on enclosed inquiry slip ▲

POINT-OF-USE STORAGE
Reduces Parts Loss and Damage

SAVES SPACE and TIME

IN ASSEMBLY PLANTS AND JOB SHOPS low cost Stackbins in Stackracks provide flexible point-of-usage storage to cut costs and increase production.

AVAILABLE IN 8 SIZES, individual Stackbins in Stackracks make components of high usage accessible. Different size units can be interstacked to provide centralized control of related parts. STACKBIN POINT-OF-USAGE STORAGE is easily adapted to changing production requirements. Individual Stackbin in Stackrack units interlock: no tools, fasteners or set-up time required.

ALL STACKBIN PRODUCTS ARE SOLD DIRECT
WRITE FOR CATALOG 505
STACKBIN CORP. 1081 Main St., Pawtucket, R. I.
Mfgd. and sold in Canada exclusively by Wickware-Stackbin, Ltd., Perth

STACKBIN® "Stacked and Still Accessible" SYSTEM

▲ For more details circle NED-475 E on enclosed inquiry slip ▲

For faster, lower cost assembly...

You'll get big savings on assembly operations with Stackbin Assembly Bins. Work station layouts are more efficient. Parts are kept close to worker's hands . . . reaching and fumbling is eliminated. Shallow angle lip is just right for finger tip control. Operators can select with both hands. Sloping bottom feeds parts continually toward the front. With adjustable hoppers, there are always plenty of parts when and where they're needed.

Stacking feature permits rigid setups, allows flexibility when layout is changed.

Stackbin Assembly Bins feature all-welded construction with smooth, folded edges. 6 sizes with straight or tapered sides. Also available with rear-loading feature.

WRITE TODAY for full information on the Stackbin System
Stackbin Corporation, 1081 Main Street, Pawtucket, R. I.
Mfgd. and sold in Canada exclusively by Wickware-Stackbin, Ltd., Perth

STACKBIN® "Stacked and Still Accessible" SYSTEM

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A Stockroom You Can Build Yourself!

SECTIONAL STACKBINS® give you the greatest flexibility and ease of installation ever devised for parts, tools, materials storage containers. You can set them up in minutes without tools! By combining bin sizes and number and size of openings, you get a storage system tailored to fit your particular needs. SECTIONAL STACKBINS give you maximum storage utility in minimum space. Available in 6 interstacking sizes.

For full information and prices, WRITE TODAY!

STACKBIN CORPORATION
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STACKBIN® "Stacked and Still Accessible" SYSTEM

▲ For more details circle NED-477 E on enclosed inquiry slip ▲

▲ For more details circle NED-478 E on enclosed inquiry slip ▲

HYDRAULIC COUPLINGS AND HOSE

A FULL REUSABLE COUPLING LINE . . . ASSEMBLED TO SURGEPRUF NON-SKIVE AND SAE 100R1, 100R2 AND 100R5 HYDRAULIC HOSE...WITHOUT SPECIAL TOOLS!

Stewart-Warner's new, expanded Surgepruf line offers a full range of reusable couplings, hydraulic hose and adapters for all types of applications, ranging from fuel lines to high-pressure lines . . . available in complete assemblies for immediate use. Depend on this one reliable source for your hydraulic couplings and hose.

Only Surgepruf Reusable Couplings and Hose Have These Outstanding Features:

Superior Fluid Seal, with no wire braid exposure, eliminates seepage between coupling and wire braid.

Non-Skive Assembly provides fastest field assembly with just ordinary tools.

Superior Finish—precision-machined steel couplings have zinc dichromate finish . . . meet rigid salt-spray testing requirements.

Full Interchangeability—regardless of hose lines, Surgepruf couplings are available in any style and thread.

Write For New, Complete Surgepruf Catalogs!

Symbol of SW Excellence
ALEMITE DIVISION
STEWART-WARNER CORPORATION
1850 Diversey Parkway, Chicago 14, Illinois

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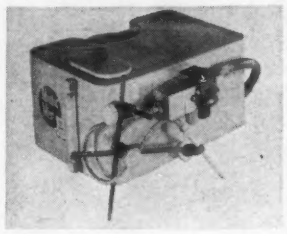
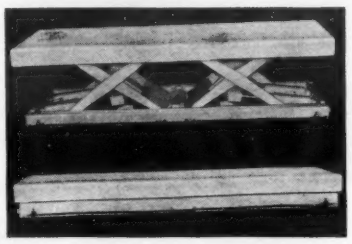
MIST COOLANT GENERATOR
controlled by press spindle movement



Designed for use on drill presses having 2¾-in. columns, Model D-60 mist coolant generator is controlled automatically by up and down movement of the drill press spindle. In addition to this on-off control, needle valves permit precise air and coolant flow, set to meet job needs. Unit is well suited for multiple machine production use or general shop applications, and greatly increases production and tap, drill, and reamer life. • **Aetna Mfg. Co.,** 188 S. York St., Bensenville, Ill.

▲ For more details circle NED-480 E on enclosed inquiry slip ▲

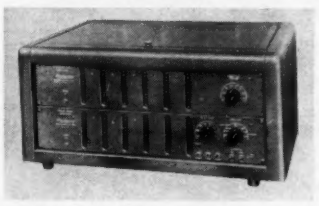
LIFT TABLE
capacities extended to 24,000 lb



This heavy-duty LT-12 lift table extends available capacities from a low of 500 lb to 24,000 lb. Table employs hydraulic-powered, scissor-type lifting mechanism and will collapse to height of only 8½ in. Extended height is 40 in. Various platform sizes beginning at 40 x 144 in. have tops suitable for turntables, conveyor units, fixtures, or other custom-built working devices. It has two rotary gear pumps and two 1-hp motors for 220/440 or 550-v three-phase ac operation. • **Southworth Machine Co.,** 30 Warren Ave., Portland 2, Maine.

▲ For more details circle NED-481 E on enclosed inquiry slip ▲

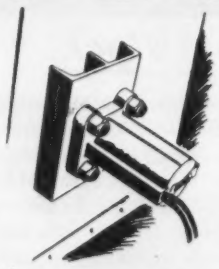
TIMER-SCALER
has 15 preset count, time settings



Data print-out in many flexible modes of operation is possible with the nuclear scaler and crystal controlled timer combination. It has 15 preset count settings from 10 to 500,000 counts and 15 preset time settings from 1 to 50,000 sec. Any of the time or count settings may be used simultaneously, with the system stopping when the first preset event occurs. Both units provide "staircase" outputs for operation of a digital printer. Binary coded decimal output can also be provided for operating data handling equipment. System will recycle automatically, if desired, with print-out being cumulative or cyclical. Scaler and timer can be used independently. • **Hamner Electronics Co.,** Princeton, N. J.

▲ For more details circle NED-482 E on enclosed inquiry slip ▲

Shake Loose those bin problems with a CLEVELAND VIBRATOR



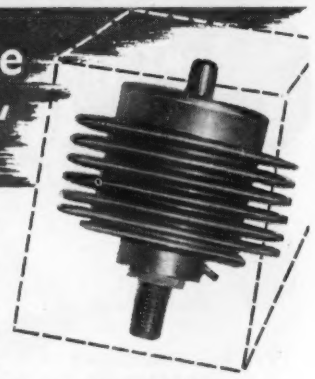
Maintain a regulated flow from your bins. Cleveland Vibrators eliminate plugging and jamming. Low in cost and easy to install, there is no bin damage and no wasted man hours.

Write today for literature on air and electrically operated vibrators.

Bin Stuck Lately?
THE CLEVELAND VIBRATOR CO.
Dept. 5K-2744 Clinton Ave. • Cleveland 13, Ohio

▲ For more details circle NED-483 E on enclosed inquiry slip ▲

Save by the "Package"



Whatever your bellows requirements, you save time, trouble, money by ordering the *complete assembly* from Robertshaw. Engineered to your specifications in a wide choice of metals, Robertshaw bellows are fully assembled and pilot-tested before shipment . . . ready to go to work on arrival. Get the full story on Robertshaw Sylphon® Bellows . . . from the company that invented seamless bellows and has led the field for over 50 years! Ask for Catalog JY-R. **Fulton Sylphon Division, Robertshaw-Fulton Controls Co., Knoxville 1, Tennessee.**

Robertshaw MR. CONTROLS

▲ For more details circle NED-484 E on enclosed inquiry slip ▲

CARRIES 1000 LB. LOADS
automatically to any station

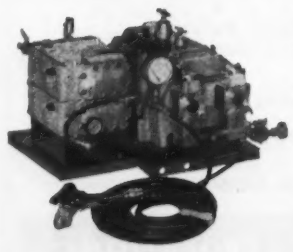
Will stop at any of numerous stations. Worker selects destination by setting simple, automatic controls. Man at destination can return car by push button when unloaded. Travels safely at 90 feet per minute with loads up to 1000 pounds. Eliminates aisle traffic . . . no operator needed to travel along!

Write for Bulletin C-2.

AMERICAN MONORAIL 1116 E. 200th STREET CLEVELAND 17, OHIO

▲ For more details circle NED-485 E on enclosed inquiry slip ▲

no other spray system offers ALL the advantages of NORDSON HOT AIRLESS



With Nordson **Hot** Airless, Heat is used to control viscosity. This means:

- Less solvents are used
- Higher solids may be applied
- Lower operating pressures – less over spray
- Paint savings of 30% are common
- Solvent flash-off and drying times are cut sharply
- Spray booth and exhaust costs kept to minimum

Heat control of viscosity also assures better flow out – eliminates orange peel and blushing, provides smoother, finer finishes, better control, greater uniformity – less rejects.

Let us show you how Hot Airless can help you do a better job. Write for further information,

NORDSON CORPORATION
72 Jackson St., Amherst, Ohio

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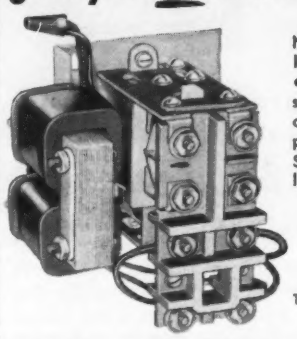
WARRICK Floatless Electrode Type

LIQUID LEVEL CONTROLS . . .

give you all these advantages!



No moving parts in the liquid • Easy to install • No adjustments necessary • Unaffected by acids or caustics • Unaffected by pressure or temperature • Standard 2&3 pole units listed by U/L

Write for 32-page Catalog which gives complete specifications

Two pole control shown at left

YOU CAN USE OUR CONTROLS FOR:

- Single & multiple pumps
- Motor & solenoid valves
- High & low cutoffs & alarms
- Sewage & waterworks
- Chemical Industries
- Food & Dairy Industries
- OEM applications

Special controls to custom requirements

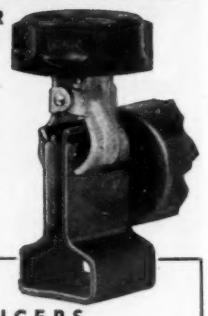
CHARLES F. WARRICK CO.
1964 W. Eleven Mile Road, Berkley, Michigan
Dep't 6 Telephone JOrdan 4-6667

▲ For more details circle NED-487 E on enclosed inquiry slip ▲

ELIMINATE THIS COSTLY **TROUBLE ZONE** with inexpensive

TRICO **KLIPLOK CLAMPS** FOR FUSE CLIPS

- SAVE POWER
- SAVE FUSES
- SAVE CLIPS



Kliploks lock fuse and clips together . . . Prevent dangerous heating and arcing at contacts . . . Stop unnecessary fuse blows. Especially recommended for "Dual-Element" fuses.

WRITE FOR BUL. NO. 6

TRICO FUSE REDUCERS

Heavy solid brass and copper parts. 250 and 600 volts. Makes it possible to use standard or dual-element cartridge fuses of sizes smaller than the fuse clips are intended for.

WRITE FOR BULLETIN NO. 8

TRICO FUSE MFG. CO. MILWAUKEE 12, WIS.

▲ For more details circle NED-488 E on enclosed inquiry slip ▲

Master Gearmotors

matched motor and right angle reducer in one compact power package

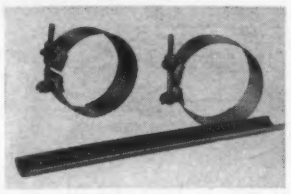
Reduce engineering and assembly costs—eliminate separate components with this Master Gearmotor. No high speed couplings, V-belts, chains and sprockets required. Takes up less space—reduces mounting plates and maintenance. Available in ratings from ⅛ to 125 hp. in right angle, parallel or in combination. Wide choice of electrical and mechanical modifications . . . vertical, horizontal flange, and face mountings; output shaft over, under, left or right.

Write for full information, or call your nearest Reliance Sales Engineer. E-1647

RELIANCE ELECTRIC AND ENGINEERING CO.
245A1 CLEVELAND 17, OHIO
Canadian Division: Toronto, Ontario
Sales Offices and Distributors in Principal Cities

▲ For more details circle NED-489 E on enclosed inquiry slip ▲

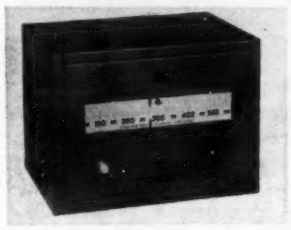
PIPE REPAIR CLAMPS
strip stops longitudinal leaks



By using the strip gasket in the needed length and installing these quick-bolting Redi-Clamps side by side, pipe repairs of any length can be made in multiples of 3 in. Clamps are rapidly installed since bolt remains in one lug and is snapped over the open slot of the opposite lug. They are offered in 3-in. band widths, whereas the Sta-Grid strip gasket, consisting of ⅛-in. gridded neoprene vulcanized to stainless backing, is supplied in 18 in. lengths and 1½ and 3-in. widths. An 18 x 30 in. sheet is also available from which special strip sizes can be cut. • **Smith-Blair, Inc.**, 535 Railroad Ave., South San Francisco, Calif.

▲ For more details circle NED-490 E on enclosed inquiry slip ▲

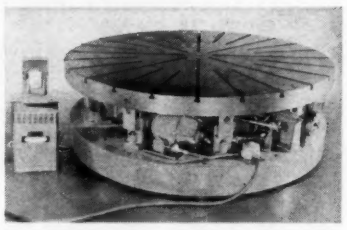
INDICATING TEMPERATURE CONTROL
affords control stability to ±0.1° F



A 10-in. slide rule readout based on a stable null balance servo system is featured by Series 5000 indicating temperature controller. Temperature control is maintained electronically, independent of meter movement. Instrument is available with either time proportioning or on-off control, with or without anticipating section, and affords control stability from ±0.5 to ±0.1° F. Indication accuracy is within ±½ per cent of scale range. Plug-in, encapsulated circuitry is dust and moisture proof. • **Electronic Processes Corp. of California**, 436 Bryant St., San Francisco 7, Calif.

▲ For more details circle NED-491 E on enclosed inquiry slip ▲

LARGE ROTARY TABLE
handles loads up to 90,000 lb

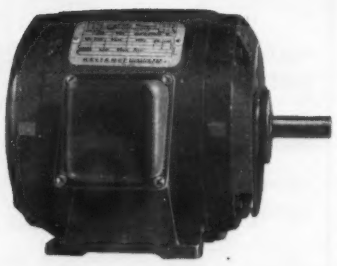


Despite its 102-in. diameter and 90,000-lb capacity, this precision rotary table for inspection and machining is accurate within 5 sec of an arc. Of explosionproof design, it has an adjustable speed motor drive which gives 0 to ⅓ rpm. Preliminary positioning is achieved using a visible counter reading 000 to 359 degrees. Final minute and second adjustment is manual with a microscope. It has positive backlash control, self-locking brake, and suitable T-slots, plus machined annular grooves at 2-in. intervals. • **Machine Products Corp.**, 6771 E. McNichols Rd., Detroit 12, Mich.

▲ For more details circle NED-492 E on enclosed inquiry slip ▲

Duty Master

a brand new A-c. motor



New design gives users better protection from the inside out, simplified lubrication, better response and improved all around performance. The Duty Master a-c. line, from protected to totally-enclosed, explosion-proof, 1 to 250 hp. is ready for delivery *now*.

NEW DUTY MASTER BULLETIN now available with specific information about its advanced engineering qualities and design features. Write for B-2106. B-1646

RELIANCE ELECTRIC AND ENGINEERING CO.
Dept. 245A3 CLEVELAND 17, OHIO
Canadian Division: Toronto, Ontario
Sales Offices and Distributors in Principal Cities

▲ For more details circle NED-493 E on enclosed inquiry slip ▲

Now you specify added safety when you order Stanley Ball Pein Hammers. Exclusive Stanley rim tempering minimizes chipping of critical area . . . assures greater safety for users.

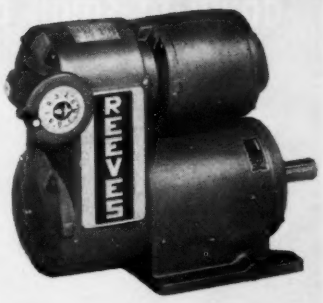
Available with triple wedged "Evertite" selected hickory handles in 10 sizes from 2 to 48 ounces.

Write for new catalog, "Stanley Tools for Industry" to Stanley Tools, Division of The Stanley Works, 5805 Elm Street, New Britain, Connecticut.

STANLEY

▲ For more details circle NED-494 E on enclosed inquiry slip ▲

REEVES VARI-SPEED MOTODRIVE



Now available in this compact design, Reeves Vari-Speed Motodrives deliver 2:1 through 10:1 speed variation, output speeds as low as 1.71 to as high as 4660 rpm.

The infinitely variable output speeds meet almost every production need.

You can get these drives with output shaft on same (C-Flow) or opposite side of the motor (Z-Flow); vertical, 45°, horizontal or trunnion models; no reducer, and single, double or triple stage reductions . . . hundreds of space saving assemblies. Reeves provides a full range of modifications, accessories, and manual, remote or automatic controls.

Complete data on sizes 100—500 (¼—20 hp.) and sizes 8000 (25—40 hp.). Write for new Reeves 8 page catalog G-5812 or check your Reliance Sales Engineer. G-1655

RELIANCE ELECTRIC AND ENGINEERING CO.
245A2 CLEVELAND 17, OHIO
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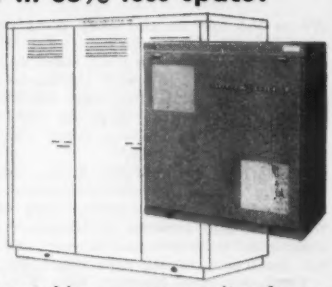
Reliance V★S Drives

more power in 35% less space!



Super 'T' V★S Drives are efficient, integrated units—with a wide range of stepless variable speeds from in-plant a-c. circuits.

New Super 'T' V★S units are simple to install and maintain. Only the drive motor needs to be placed at the machine . . . power unit and operator's control can be located wherever space and convenience permit. These new units utilize Class B insulation . . . resulting in a more compact package. 100% overloads of one minute duration are accomplished without failure.

WRITE FOR NEW RELIANCE V★S BULLETIN Number D-2506. Gives you complete information. Or call your nearest Reliance Sales Engineer for delivery schedules on full line, 1—350 hp. D-1648

RELIANCE ELECTRIC AND ENGINEERING CO.
245A CLEVELAND 17, OHIO
Canadian Division: Toronto, Ontario
Sales Offices and Distributors in Principal Cities

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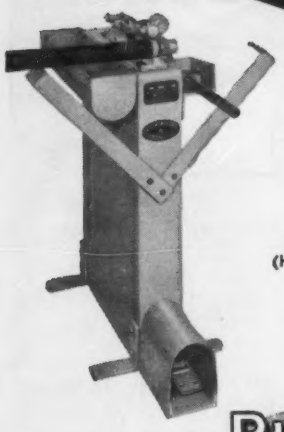
PUNCH-LOK
"No Snag"
HOSE CLAMPS



The answer to
PRODUCTION CLAMPING
The TA-1
Tension-Air
CLAMPING MACHINE
for fast, uniform clamping
(Hand clamping tools also available)

WHY WAIT?
SET A DATE
WE'LL DEMONSTRATE
See Your Nearby Punch-Lok Distributor or Write Direct

PUNCH-LOK Company
The Sign of a GOOD Hose Clamp
Dept. A, 321 North Justine Street
Chicago 7, Illinois 9365

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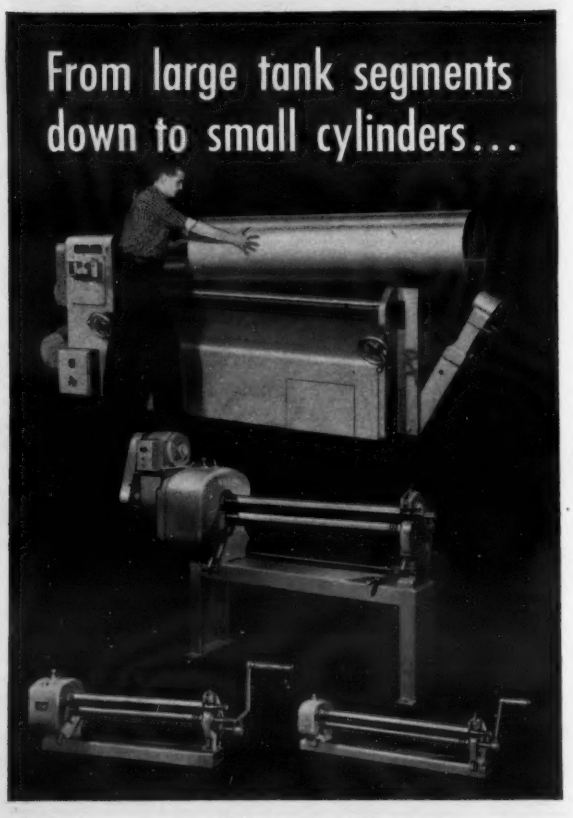
From large tank segments down to small cylinders...



Niagara Slip Roll Formers can turn out better work faster, at greater profit

Name the job! In the truly complete Niagara line . . . *most complete of them all* . . . you're sure to find the Slip Roll Former best suited to your sheet rolling needs. Working with lengths up to 120" and thicknesses up to 7/8" mild steel, Niagara Slip Roll Forming Machines are available in an unusually wide range of power and hand operated models for forming light and heavy pipe; stacks; drum, pail, tub and other container bodies.

Featuring Pinch Type Rolls, modern Niagara Slip Roll Forming Machines produce commercially true cylinders virtually free from flat spots, using thin materials as well as thick . . . and because of Niagara's unique slip roll features, completed cylinders can be removed easily and quickly without distortion, saving time and costs.

Find out how Niagara Slip Roll Formers (diameters 1" thru 10") can turn out better work at greater profits for you. Write for Niagara's new, illustrated Bulletin 77 today. It will be mailed free . . . without obligation.

NIAGARA

America's Most Complete Line of Presses, Shears, Other Machines and Tools for Plate and Sheet Metal Work

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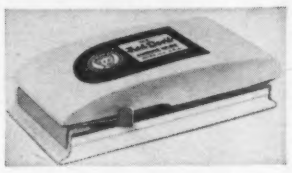
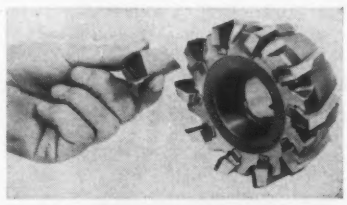
SANDPAPER HOLDER
has a resilient and hard surface



With a flip of the lever, abrasive sheet can be clamped to either a curved, resilient rubber or a hard, flat, Tenite surface on this two-way No. 8 sandpaper holder. Holder is 6 in. long and 2¾ in. wide and is supplied with a sheet of sandpaper. It is also available as the No. 8S with a piece of Dragon-Skin, flexible steel sandpaper. • Red Devil Tools, Box 355, Union, N. J.

▲ For more details circle NED-499 E on enclosed inquiry slip ▲

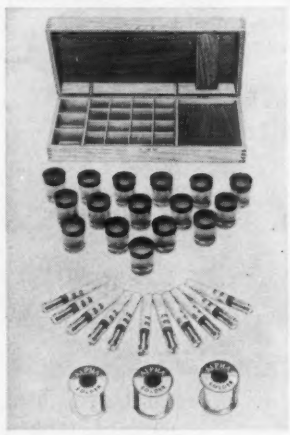
MILLING CUTTER BLADE
can be reground many times



Design of Series 7888 milling-cutter blade allows seventeen 0.030-in. regrinds compared to average of twelve with blade of former design. Blade life is increased by about 36 per cent. Offered in various Wessonmetal grades, blades will be supplied on all new Series 5200, 5400, and 5500 milling cutters and can be used without change on existing cutters in these series. Blades are available for right or left-hand cutters in 4 to 32-in. diameters. • Wesson Co., 1220 Woodward Heights Blvd., Ferndale 20, Mich.

▲ For more details circle NED-500 E on enclosed inquiry slip ▲

SOLDER & FLUX KIT
for experimental, preproduction jobs



Supplied in a compartmented wood box, the Alpha Solder and Flux R&D Kit enables design and process engineers to do experimental preproduction jobs that are not possible with standard tin-lead solders. It contains 16 varieties of soldering chemicals, including fluxes, solder paste, flux and dross removers, and printed circuit board coatings; 11 kinds of flux-filled and solid wire solders in dispenser tubes; and three foil solders for making preforms. Solders comprise a soft, high tensile strength type, a solder with high solidus temperature for missile and rocket use, and low melting temperature solder for use on ceramic feedthroughs. • Alpha Metals, Inc., 56 Water St., Jersey City 4, N. J.

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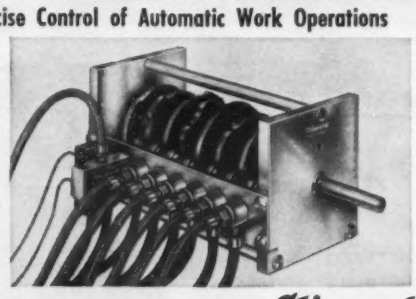
NEW STURDY, PNEUMATIC — ELECTRICAL SEQUENCE PROGRAMER
for Precise Control of Automatic Work Operations



PRECISION BUILT . . .
Reasonably PRICED . . .
Immediate DELIVERY!

Now — a rugged, dependable, inexpensive pneumatic-electrical sequence programing unit for precise control of your automatic tooling and work operations! Overall size 7⅛" x 3¾" x 4". End plates tapped for mounting bottom or rear. Self-lubricating bearings. ⅜" steel shaft may be extended out either or both ends for tandem operation. Selection of any combination of 8 standard long-life, easily machined single piece phenolic cams fills majority of requirements. Special cams available at nominal cost. For millions MORE cycles of trouble-free service life and simplest maintenance, use with Clippard MINIMATIC VALVES and CAM FOLLOWERS as shown above.

Clippard Minimatics

Write, NOW, for FREE BULLETIN No. 360

Clippard INSTRUMENT LABORATORY, INC.
7390 Colerain Rd., Cincinnati 39, O. Phone JAckson 1-4261
Manufacturers of Precision Pneumatic Devices, R. F. Coils, Electronic Equipment

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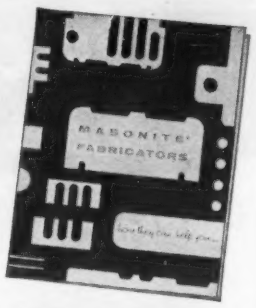
THIS FREE BOOKLET



can help you improve design, production, quality
... describes all services of
MASONITE FABRICATORS

Learn how components fabricated of Masonite® hardboard can bring true economies to your production. Our free booklet tells how Masonite fabricators will saw, punch, drill, bend, shape and apply the finish to these versatile panels—all to your exact specifications. It also describes our design and engineering services, our die shop facilities. Our fabricating plants are conveniently located and equipped to serve most industries. Write for your booklet now. Masonite Corporation, Dept. NED-5, Box 777, Chicago 90, Ill.

MASONITE CORPORATION
®Masonite Corp.—manufacturer of quality panel products for building & industry.

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DO YOU USE PRESSURE REGULATORS ?

SEND FOR NEW FREE CATALOG ON KENDALL® and GOVERNAIRE®

Catalog gives performance and other data on 18 models of precision pneumatic pressure regulators. (pipe sizes ¼" to ¾" NPT)

STRATOS®
A DIVISION OF FAIRCHILD ENGINE & AIRPLANE CORPORATION
INDUSTRIAL PRODUCTS BRANCH
West Babylon, L. I., N. Y.

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Designers & Engineers!

Get this new free bulletin on higher HP SPEED REDUCERS

Write today for your personal copy of this new 24-page detailed engineering Bulletin #405. It describes the finest, newly designed line of higher-horsepower worm and gear speed reducers — from one to forty horsepower.

Engineering data includes:
- Input Horsepower Tables
- Output Torque Tables
- Service Factors
- Application/Load Classifications
- Over-all Dimension Drawings

CLEVELAND WORM & GEAR DIVISION
Eaton Manufacturing Company
3283 East 80th Street • Cleveland 4, Ohio

▲ For more details circle NED-505 E on enclosed inquiry slip ▲

solve departmental needs

EFFICIENTLY

with the SICO "3000" table

Here's an efficient solution to lunch hours and coffee breaks. Eating right in the department gives employees more time to enjoy their leisure periods—more time for relaxation.

Roll it in, open it up—roll it out, fold it. The SICO "3000" is portable and folding. It nests for minimum storage. Easy to keep clean, tops are free of banding, crevices, or other food traps. Steel frame is zinc lustron plated—with the qualities of fine zinc plating, without its oxidation problems. Built to withstand abuse. Available in round top (40"), square top (36"), or rectangular top (30" x 48", 60", 72", 84" or 96").

For complete information on the SICO "3000" Table, write:

SICO MANUFACTURING COMPANY, INC.

5215 Eden Ave. South., Minneapolis 24, Minn., Dept. 1101

▲ For more details circle **NED-506 E** on enclosed inquiry slip ▲

XCELITE, INC. ORCHARD PARK, N. Y.

XCELITE Canada: Charles W. Pointon, Ltd., Toronto, Ont.

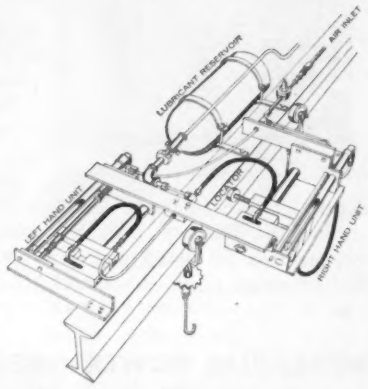
INDUSTRIAL HAND TOOLS

▲ For more details circle **NED-507 E** on enclosed inquiry slip ▲

TROLLEY LUBRICATOR

self-contained, automatic unit is remotely operated, easily installed

Hard-to-get-at conveyor trolley fittings are automatically lubricated by this air-powered lubricator, operated by remote controls from floor level. Unit consists of left and right hand lubricating assembly, a 5-lb capacity lubricant reservoir mounted on a 4-ft I-beam, and an electrical or pneumatic operated control panel. It is installed on existing trolley conveyors by cutting out the beam and welding in place.



Mechanism retracts the unit if trolley wheels become broken or damaged. Predetermined amounts of lubricant are delivered with no maximum limit to wheel spacing. It will lubricate 4-in. conveyor wheels traveling at a maximum of 75 fpm with a minimum wheel spacing of 16 in., or 6-in. trolley conveyor wheels traveling at 60 fpm on 24-in. spacing. • **Aro Equipment Corp.**, Erie Street, Bryan, Ohio.

▲ For more details circle **NED-509 E** on enclosed inquiry slip ▲

WELDING & CUTTING OUTFITS

packaged with all required equipment, plus instructions

Welding range of packaged welding and cutting outfit No. 1 with three tips is up to 1/2 in. steel. Cutting range with one furnished tip is up to 3-in. sections. Selling at $99, it includes a Weldmaster torch and cutting attachment. Additional tips are available to extend welding range up to 3/4-in. steel and cutting range to 4 in. Multiseal regulators (oxygen with Safe-T-Chek valve), goggles, torch wrench, Tripl-Flint lighter, 12 1/2-ft length of 3/16-in. Tu-Line hose, and 40-page instruction manual are included.

Outfit No. 2 selling for $89 has Aviator-Jet welding torch and cutting attachment. Tips provide welding range up to 5/16-in. steel and cutting range to 1 1/4-in. sections. Additional tips extend steel welding range to 3/8-in. and cutting range to 2 in. Remainder of outfit is the same as No. 1. • **Modern Engineering Co.**, 3401 Pine Blvd., St. Louis 3, Mo.

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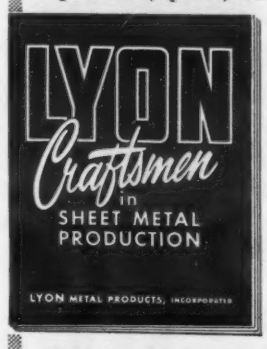
DO YOU NEED

a low-cost source of metal fabricating?

Three large, well equipped plants at **Aurora, Ill., York, Pa.** and **Los Angeles** geared to economical production. Experienced in handling thousands of special items . . . products, parts, sub-assemblies, merchandising units, made to your specifications.



Modern equipment includes coil steel slitting, leveling and edging, press work, all types of welding, electrostatic finishing. Sound design and engineering counsel.

Send for 16-Page Booklet

It tells All!

LYON METAL PRODUCTS, INC.

General Offices, 522 Monroe Avenue, Aurora, Illinois

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The SL2 snap-lock·Newest NAMCO

Machine Life Limit Switch

Snap-Lock Limit Switches, developed by National Acme to meet rigid specifications, have become industry's standard for reliable "machine life" service. Latest and most advanced in the complete line is the SL2. Built with machine tool precision and ruggedness, it will give millions of fast, accurate contacts.

Closely Check These Outstanding Features

1. Flexible Operation . . . To meet the requirements of any application, standard cam blank can be cut into a wide variety of configurations. Interchangeable, these cams provide positive control of contact sequence; permit tailoring switch performance to individual jobs.

2. Ample Overtravel and By-pass . . . Sixty-seven degree overtravel . . . 90° by-pass . . . 180° arc.

3. Clockwise or counterclockwise motion . . . Converting from clockwise to counterclockwise motion takes but a few seconds.

4. Light Operating Pressure . . . Tripping action requires only 12½ pounds at 1½ inch radius . . . 50% less than previous models. Overtravel reduced so as to require only 8 pounds at 1½ inch radius.

5. Shock-proof Design . . . Positive mechanical lock mechanism withstands shock and vibration.

6. Fast Contact Action . . . High make-and-break contact speed permits use in unusual applications.

7. High Contact Pressure . . . Contact bounce minimized by use of new contact material that permits 15 oz. contact pressure.

Write for Bulletin EM-SL60 containing complete detailed information

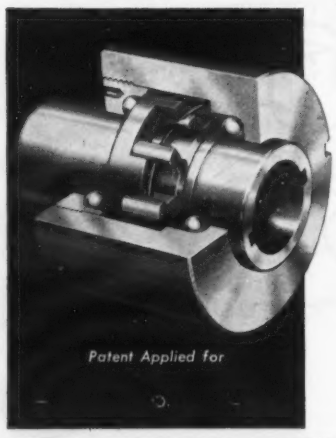
National Acme THE NATIONAL ACME COMPANY 182 E. 131st STREET CLEVELAND 8, OHIO

Sales Offices: Newark 2, N.J.; Chicago 6, Ill.; Detroit 27, Mich.

▲ For more details circle **NED-512 E** on enclosed inquiry slip ▲

NEW! DUAL TORQUE-LOCKING & POSITIONING DEVICE

REV-LOK eliminates feedback torque, provides two-directional positioning, drive, over-running and backstopping



NOW! You can have positive and instantaneous stopping of feedback torque. With this new Formsprag device, simply mount the outer race in a fixed position and the full-complement of sprags will instantly stop feedback by wedging between output member and the outer race—feedback can never reach the input shaft. Yet, design permits transmission of driving torque in either direction from input to output shaft.

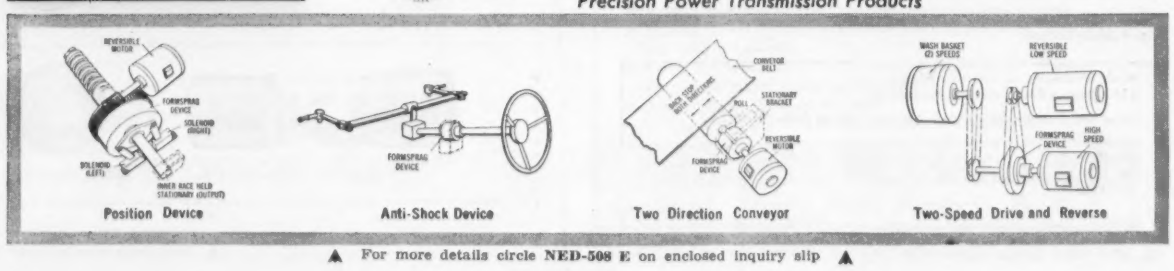
When used as a two-directional over-running clutch, output shaft is secured against rotation and clutch outer race is then the output member. Direction of drive, over-running and backstopping is determined by positioning of input shaft.

This versatile device is compact, has higher torque capacity for its size and weight and permits higher over-running speeds than any similar device. Its operation and features are explained in detail in a new technical paper, write for your copy.

FORMSPRAG COMPANY

23595 HOOVER ROAD • DEPT. 105 • WARREN (Detroit), MICHIGAN

Precision Power Transmission Products



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HAGEN repeat cycle timers...

FOR INTERRUPTING ELECTRIC CIRCUITS AT A PRE-ARRANGED TIME SETTING

★ Split Cams for variable percentage setting

★ Time cycles from 1 sec. to 60 min.

★ Contact Rating 15 Amps. at 115 V. AC. 7.5 Amps. at 440 V. AC.

MODEL 71

ENCLOSED

Ideal for grease injection, motor control, humidifiers, signal lights, pulsing circuits, vending machine and appliance control. One and two circuit models available.

Write for Bulletin 1310 for complete specifications and types available. Address Dept. NED-560.

HAGEN MANUFACTURING COMPANY
Baraboo, Wisconsin

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DEBURRING PROBLEMS FADE AWAY

The Vonnegut Brush-Backed Polishing Head is unmatched in its ability to remove burrs from complicated shapes, such as this double width sprocket wheel. The Vonnegut Head will blend tool marks and polish as well as deburr. The variety of sizes and brush diameters in which this tool is available makes it Versatility-Plus. Ask for Bulletin No. 102.

Grinding and Polishing Machinery Corp.
SUCCESSORS TO VONNEGUT MOULDER CORPORATION

2530-J WINTHROP AVENUE, INDIANAPOLIS 5, INDIANA

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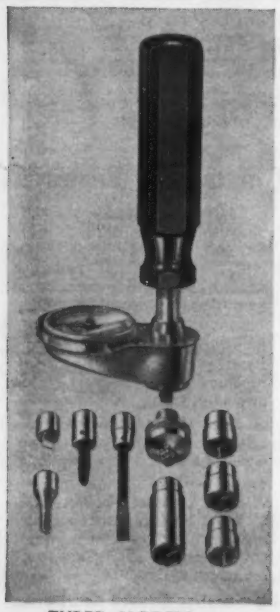


Snap-on Torque Driver

FOR AVIATION — ELECTRONICS — RADIO TELEVISION — RADAR ...ANY PRECISION ASSEMBLY WORK

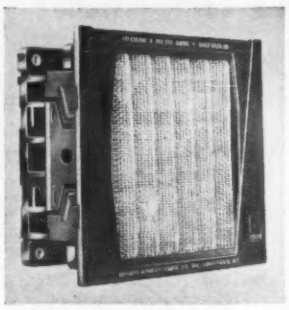
SNAP-ON torque driver tightens screws or nuts to exact tensions. Unit is extremely accurate, regardless of position or manner of holding. Easy-to-read dial is calibrated in inch-ounces and inch-pounds.

THREE MODELS — capacities 3 in-lb and 48 in-oz; 6 in-lb and 96 in-oz; 12 in-lb and 192 in-oz. Get full details from your SNAP-ON representative.

FOR ALL INDUSTRY
SNAP-ON TOOLS
8110-E 28th Avenue • Kenosha, Wisconsin

▲ For more details circle NED-515 E on enclosed inquiry slip ▲

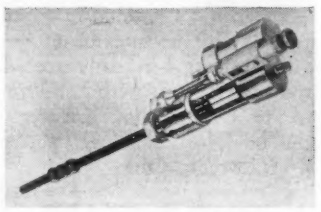
FILTER & FAN provides 75 cfm of filtered air



Designed for equipment cooling and ventilating, the packaged Muffin filter fan utilizes a filter box that is matched to the fan. It delivers 75 cfm of filtered air with a clean filter in place. Mounting clips hold the filter box in place between the grille frame and the venturi fan, adding only ¾ in. to the depth. The permanent Air-Maze P96A filter media is washed by flushing with hot water. Dust removal efficiency is 80 to 85 per cent. • **Rotron Mfg. Co.,** Schoonmaker Lane, Woodstock, N. Y.

▲ For more details circle NED-516 E on enclosed inquiry slip ▲

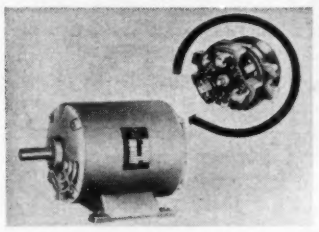
HYDRAULIC POWER CHECK gives cushioning action to cylinder



Usable with any air, oil, or water operated cylinder, this improved hydraulic power check provides a cushioning action by imparting an accurately controlled counterforce. It operates on a dashpot principle, and control rate or action is adjustable. An air or solenoid pilot valve can be used for stop or skip check action. Models are offered with strokes to 20 in. and for operating pressures to 3000 psi. Single-action units can give forward or reverse control, and double-action types are offered in larger sizes. They are constructed to withstand corrosion. • **Pokorny Industrial Products Co.,** 10643 Memphis Ave., Cleveland 9, Ohio.

▲ For more details circle NED-517 E on enclosed inquiry slip ▲

PROTECTED MOTORS ¼ to 3-hp, three-phase ac types



Sixty - seven different types of open motors, all with inherent automatic protection, include a wide variety of voltages, speeds, and mountings. The three-phase, ¼ to 3-hp ac motors have self-protection from both temperature and current caused by severe overloads, stalling, single phasing, unbalanced voltage, high ambient temperatures, and motor ventilation obstruction. The protector is factory-installed. Motor applications include pumps, machine tools, and air conditioning units. **Howell Electric Motors Co.,** Kingston-Conley Div., 900 North Ave., Plainfield, N. J.

▲ For more details circle NED-518 E on enclosed inquiry slip ▲

STOP THIEVES WITH "BLACK LIGHT!"

Ideal burglar protection for spacious areas at a reasonable cost, the transistorized Kidde Photo-Electric Burglar Alarm System uses an invisible beam of "black light," is completely tamper-proof, requires no special wiring. It can be installed simply and easily by one man. For more information about this new, U.L.-approved protection, send the coupon or write to Kidde today!

Kidde Ultrasonic & Detection Alarms, Inc.
524 Brighton Road, Clifton, New Jersey
Send me your Photo-Electric Burglar Alarm Data Sheet U-2.

NAME _____
ADDRESS _____
CITY _____ STATE _____

▲ For more details circle NED-519 E on enclosed inquiry slip ▲

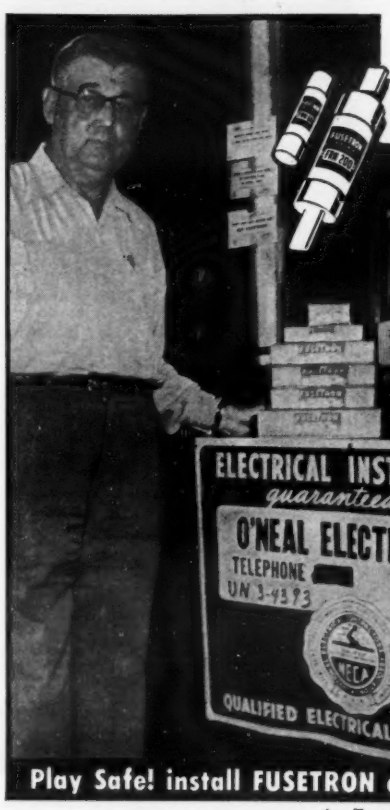
WORK-O-MATIC DROP-BOTTOM BOX AN POSITIONING STAND

Partners in handling Simplification

For details, request Catalog No. 89.
The Union Metal Manufacturing Company,
Canton 5, Ohio

UNION METAL
Material Handling Equipment

▲ For more details circle NED-52



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Play Safe! install FUSETRON dual-element FUS

▲ For more details circle NED-52

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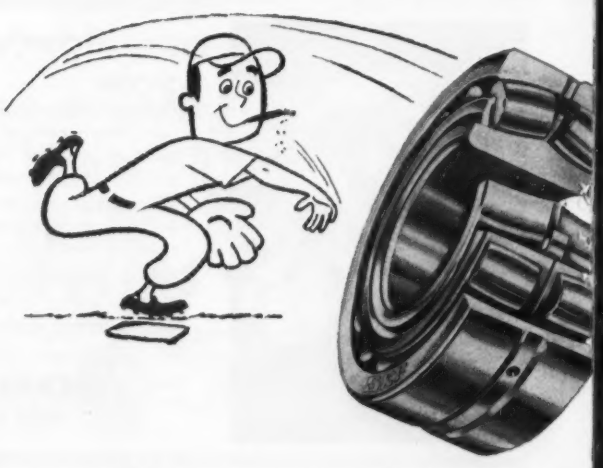
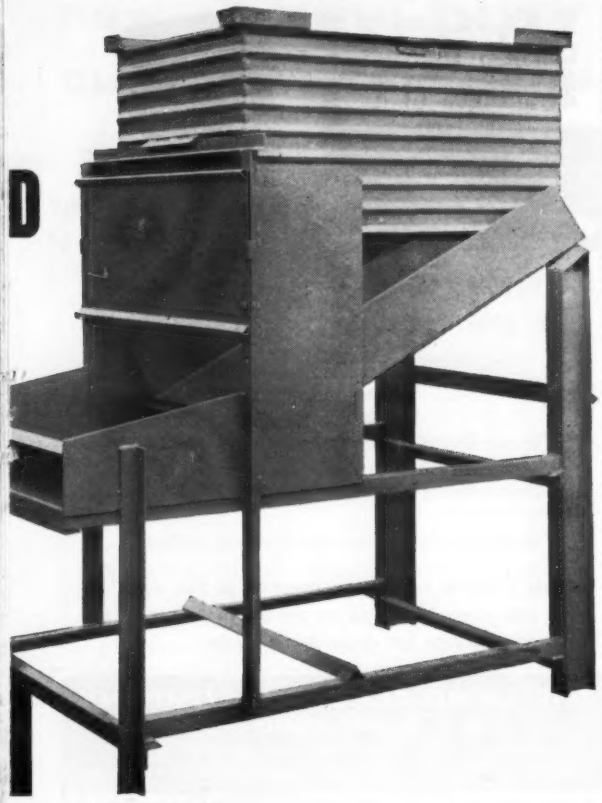


Spherical, Cylindrical, Ball, and Timken *Tapered Roller Be*

▲ For more details circle NED-52



E on enclosed inquiry slip

ed a customer stop frequent nd get safe motor protection ending FUSETRON FUSES . . . .

Real Continues . . .

ne ago, the Gulfport Ice is in to do their electrical e work. They were at deal of difficulty with ting currents causing ses to blow. They were 200 and 400 amp. ordi- o protect the motors.

frequent outages dis- ompany's normal opera- created a costly and uation. Just to replace np., 250 volt ordinary osting them about $40

recommendation was to Fusetron dual-element e proper size for safe ction. They did.

stallation of Fusetron e 'key' to the problem. five years I do not recall p. Fusetron fuse having nd outages on the 100 np. circuits have been ent."

OSCAR O'NEAL SR., PRESIDENT
O'NEAL ELECTRIC CO., GULFPORT, MISS.

FUSETRON Fuses offers High Interrupting Capacity and Life-Time Dependability Essential to Modern Protection.

High Interrupting Capacity

FUSETRON fuses have an exceptionally high interrupting rating of 100,000 amps. rms symmetrical — adequate for most conditions and for anticipated growth in service demands.

Life-Time Dependability

Unlike mechanically operated devices, FUSETRON fuses have no hinges, pivots or contacts to stick or get out of order. 20 years from now or longer, FUSETRON fuses will provide the same safe, dependable protection as on the day installed.

For more information on FUSETRON dual-element fuses, write for bulletin FIS.

560

BUSSMANN MFG. DIVISION
McGraw-Edison Co., St. Louis 7, Mo.

ES throughout the entire Electrical System!

E on enclosed inquiry slip

KF *Distributor comes through on deliveries*

Try him on any type and size of bearing. He'll come through —because he stocks SKF bearings, the most complete line of types and sizes available today. And nobody (but nobody) can get them to you any faster.

5918

EVERY TYPE—EVERY USE
SKF®
SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.

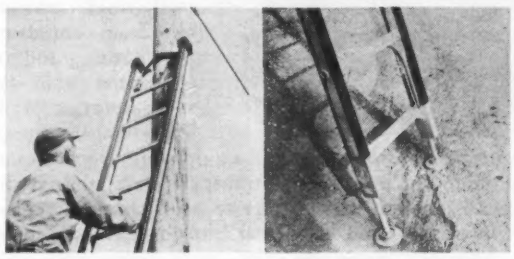
*arings

*REG. U. S. PAT. OFF.

2 E on enclosed inquiry slip

SELF-LEVELING LADDER
top sling prevents slipping when used against pole or building

Ladr-Levl device built into the Surefoot ladder makes it automatically self-leveling when used on uneven surfaces. The bottom rung automatically sets a pin-lock

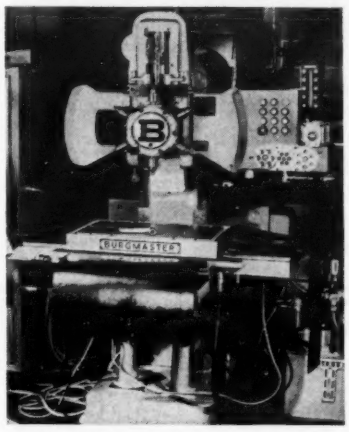


when the first step is taken; the ladder remains set until the pin's ring is pulled, returning the legs to an even position.

Ladr-Glov, a molded dielectric rubber sling for use on the top of the ladder, holds it against poles, building corners, pipes, and other vertical projections without slipping. Both the Ladr-Levl and Ladr-Glov are offered as accessories for metal and wood ladders. Surefoot ladders are made of hemlock with either hickory or aluminum rungs, and can be furnished with Ladr-Hide plastic impregnated protective covering. • **Industrial Ladder Co.**, 1212 Powell St., Oakland 8, Calif.

For more details circle **NED-523 E** on enclosed inquiry slip

AUTOMATIC TURRET DRILLS
4-speed motor doubles speed range on six and eight-spindle machines

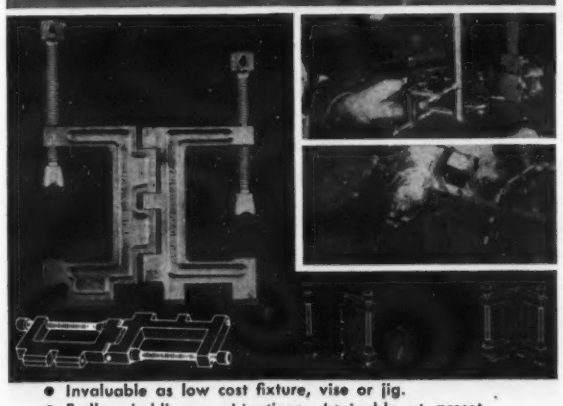


Four-speed motor gives Burgmaster automatic turret drills eight individual speeds in any of four speed ranges for each spindle. This motor design is available in six-spindle Model 2BH and the eight - spindle Model 3BH, both equipped with automatic hydraulic controls, as well as in tape controlled six and eight - spindle models. The wide speed range permits operation at the most efficient speed for any job from tapping to high speed drilling and boring.

Speed ranges of Model 2BH are 90-1300, 165-2400, 250-3600, and 375-5400 rpm; of Model 3BH, 70-1040, 110-1600, and 165-2400 rpm. Control panel on machine in photo shows twin spindle speed-cycle control drums for instant selection of any one of eight speeds for each spindle. • **Burgmaster Corp.**, 15001 S. Figueroa St., Gardena, Calif.

For more details circle **NED-524 E** on enclosed inquiry slip

A Holding Problem?
. . . MERRILL THIRD HAND CLAMPS Have The Right Angle For It!



- Invaluable as low cost fixture, vise or jig.
- Endless holding combinations obtainable at preset angles of 45°, 90° and 180°.
- Assembles in minutes for most complicated setups.
- Indispensable in any operation such as welding, fastening and machining.
- Costs no more than high quality forged "C" Clamps, yet offers many more advantages.
- Available in 2" and 4" sizes.

U-27 For complete information, ask for Catalog TH

MERRILL BROTHERS
56-62 Arnold Ave., Maspeth, N. Y.

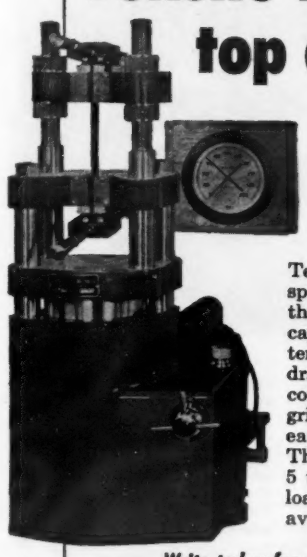
For more details circle **NED-525 E** on enclosed inquiry slip

new **"HOW-TO-DO-IT" CATALOG ON DUST AND MIST COLLECTING** Includes application suggestions, installation views, cut-away diagrams, dimensions . . . A wealth of practical guidance for DUST CONTROL which will improve working conditions and cut maintenance costs in your plant.

Hammond Machinery Builders INC.
1623 Douglas Ave. Kalamazoo, Mich.

For more details circle **NED-526 E** on enclosed inquiry slip

Tensile test with top accuracy



Use this simple hydraulically powered fast-acting tester

Test the tensile strength of spotwelds, strip, wire, anything within its 20,000 lb. capacity. The Model ST-1 tensile tester has a hydraulically powered, easily controlled ram. Self-acting grips are open-sided for easy specimen insertion. They will accept specimens 5 to 9" in length. Various load gauges and grips are available.

Write today for more information

DETROIT TESTING MACHINE COMPANY
9394 Grinnell Avenue, Detroit 13, Michigan

For more details circle **NED-527 E** on enclosed inquiry slip

YOUR BEST MOVE IS TO MOVE WITH
MERRILL
MATERIAL HANDLING DEVICES FOR THE MOST IN *Safety and Economy*

Imitated, but never duplicated, Merrill Lifting Clamps are Drop Forged to give you Safety in Handling and Economy in Operation.

6 SIZES

FEATURING THIS MONTH . . .

Over 25 Material Handling Devices described in our catalog C-2.
Ask for a copy.

AUTOMATIC FORK LIFT SAFETY LOCK ATTACHMENT
Transforms any fork lift truck into a safe, efficient mobile overhead lifting unit.

MERRILL BROTHERS
Producers of Drop and Press Forgings
56-73 Arnold Ave., Maspeth, N. Y.

1-60A

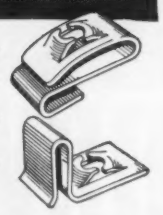
For more details circle **NED-528 E** on enclosed inquiry slip

Save as much as 50%...or more!

"U" and "J" SPEED NUTS®

snap over panel edges into screw-receiving position

- One-piece, spring steel, vibration-proof
- Lock on panel edges or in center-panel holes
- Eliminate welding, staking, secondary fastening methods
- Ideal for blind assembly or hard-to-reach locations
- Wide range of sizes



Write for free descriptive literature

TINNERMAN PRODUCTS, INC.

BOX 6688 • DEPARTMENT 12 • CLEVELAND 1, OHIO

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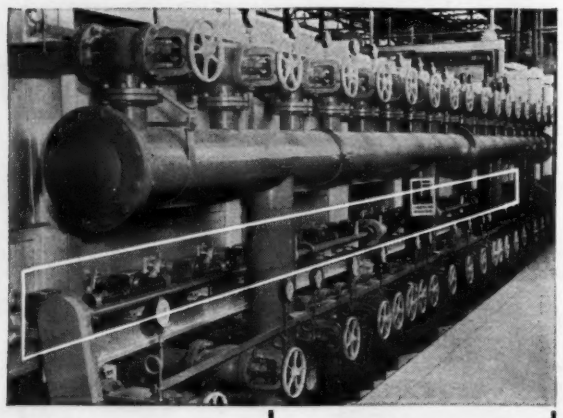
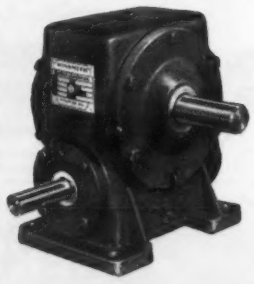


Lindberg Roller Hearth Solution Treating Furnace, showing some of the 101 Winsmith Model 2CB Reducers which drive the rolls. An additional Model 7CT is also installed. The heating chamber of this furnace is 100 feet long with 40 feet of quench chamber.

LINDBERG ENGINEERING USES 102 WINSMITH SPEED REDUCERS

on their Roller Hearth Furnaces



LINDBERG ENGINEERING COMPANY of Chicago is a leading manufacturer of heat treating furnaces. When they designed this one to handle 4,000 lbs. of aluminum extrusions per hour, specifications called for 101 speed reducers to drive the rollers. They selected Winsmith for compact size, rating and their record of past performance.

Lindberg is a long-time Winsmith customer. They describe the relationship this way..."We have used Winsmith Reducers for many years and have found their reliability and ruggedness ideal for use with our heat treating furnaces." Lindberg Engineering is another one of the leading American manufacturers who specify Winsmith Speed Reducers for most applications from 1/100 to 85 hp.—in ratios from 1.1:1 through 50,000:1.

WRITE TODAY for complete selection information and engineering data. You'll see for yourself why it pays to standardize on Winsmith.

WINSMITH SPEED REDUCERS

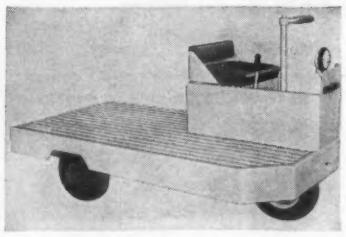
MEMBER OF AGMA

WINSMITH, INC.

119 Eaton Street, Springville, (Erie County), N. Y.

▲ For more details circle NED-531 E on enclosed inquiry slip ▲

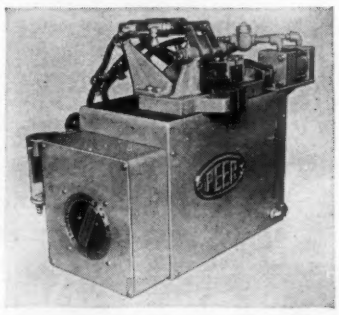
INDUSTRIAL TRUCK
hauls 1000-lb capacity loads



Transmission, differential, and drive axles of this F-10 Prime-Mover industrial truck are enclosed in one compact housing and are lubricated from the same reservoir of oil. The 1000-lb capacity unit adapts to hauling of equipment or personnel. Dynamometer tests of the transaxle show that it delivers 10 per cent more power to wheels than a typical spur, planetary, and bevel gear transmission. An internal chain eliminates the need for a reverse idler, and a worm final drive replaces reduction gears. • **Prime-Mover Co.**, Third & Oak Streets, Muscatine, Iowa.

▲ For more details circle NED-532 E on enclosed inquiry slip ▲

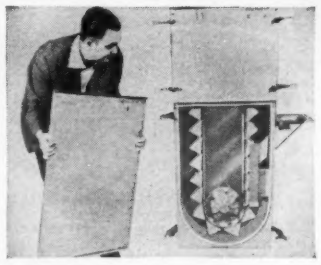
AUTOMATIC BUTT WELDER
high speed unit is air operated



Easily set up and operated Model B10 butt welder maintains precision alignment of parts being welded in an automatic high speed operation. Clamping jaws are actuated by individual air cylinders; upset pressure is also air operated by a third independent air cylinder. Both upsetting pressure and degree of upset are controlled. Two air pressure regulators, with individual gages and air line oilers, air line filter, and one set of clamping jaws and welding dies are included. Price is $1195. • **Peer, Inc.**, 1200 Milton St., Benton Harbor, Mich.

▲ For more details circle NED-533 E on enclosed inquiry slip ▲

BUCKET ELEVATORS
are of continuous discharge type

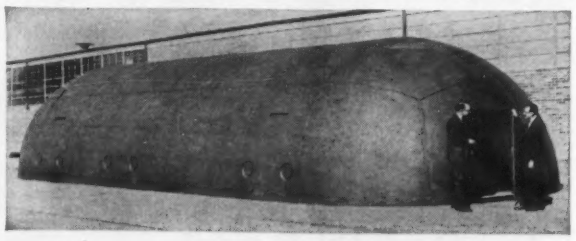


Two series of continuous discharge bucket elevators provide direct feeding into overlapping buckets and have gravity discharge. They will gently handle such fragile products as chemical crystals, flakes, chips, cubes, slices, and other easily broken materials. The VC elevators have sanitary construction with full access to interior for cleaning or product change-over, self-cleaning wing type pulleys, and adjustable loading shoe which directs products into bucket. Conventional Series GC continuous elevators are usable for broad range of product handling. • **Bucket Elevator Co.**, 57 Union Place, Summit, N. J.

▲ For more details circle NED-534 E on enclosed inquiry slip ▲

SEMIPERMANENT SHELTER
lengths from 20 to 50 ft offered

Four men using a single tool can erect this temporary or semipermanent shelter in 1 hr and dismantle it in 10 min. The transportable, molded glass fiber



building is suited for office, maintenance shop, warehouse, or manufacturing use. It is weathertight, lightproof, insulated for heat and humidity, and resistant to fungus and termites. Working temperature of 70° F is maintained with portable heating and air conditioning units. Stucture is available in lengths from 20 to 50 ft, is 10 ft high at the peak, and is free of all internal supports. It does not require surface finish maintenance, since color pigment is incorporated in the molded sections. • **Specialty Electronics Development Corp.**, Syosset, L. I., N. Y.

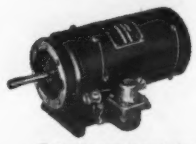
▲ For more details circle NED-535 E on enclosed inquiry slip ▲

consider the advantages of a

Lamb® MOTOR

...engineered to your product

High performance motor for automotive wheel spinners, blower drives, etc. Frame 4⅜ x 2⅞



Totally enclosed fan-cooled 27 volt DC motor for pump drive. Frame 2 x 1½

You get the *right* motor to assure desired product performance . . .

You get the *right* motor to meet weight and space requirements . . .

You get the *right* motor cost-wise, too, with a . . .

Lamb Electric motor *engineered* to the application and *mass-produced* to obtain the most favorable cost. *Write for descriptive folder.*

THE LAMB ELECTRIC COMPANY

KENT, OHIO

A Division of American Machine and Metals, Inc.

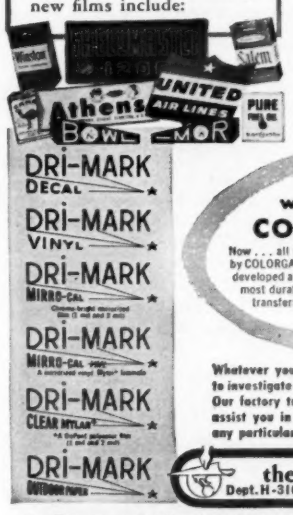
In Canada: Lamb Electric—Division of Sangamo Company Ltd.—Leaside, Ontario

▲ For more details circle NED-536 E on enclosed inquiry slip ▲

ANNOUNCING... THE LATEST ADDITION TO OUR FAMILY OF QUALITY PRODUCTS—

MEYERCORD DRI-MARK FILMS

DRI-MARK . . . is Meyercord's newly perfected line of PRESSURE SENSITIVE signs and trade marks produced as durable Truck Signs, Window Signs, Nameplates and Product Markings. These startling new films include:



These high tensile strength PRESSURE SENSITIVE films and laminates give the greatest possible latitude and flexibility to the Meyercord line of products, adaptable to all of your sign needs . . . processed with Meyercord's own exclusive PRESSURE SENSITIVE adhesive and Meyercord's in-plant Research, Art, Production and Service facilities. *Remember, when it's DRI-MARK it's Meyercord!*

with MEYERCORD COLORGARD 70

Now . . . all Meyercord DRI-MARK films are protected by COLORGARD 70...Meyercord's exclusive laboratory-developed and perfected clear top coat—the toughest, most durable coat yet produced for the Decal and transferable film industry. Thoroughly tested! Two years in actual use!

Whatever your sign needs, you owe it to yourself to investigate Meyercord's complete line of products. Our factory trained representatives will be glad to assist you in the proper selection of markings for any particular requirement. *Write today.*

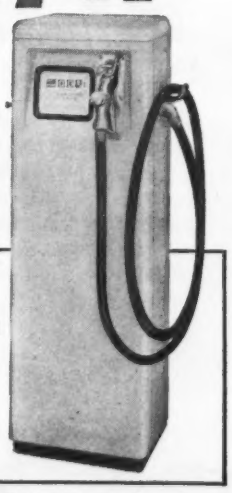
the MEYERCORD co.

Dept. H-316, 5323 West Lake Street, Chicago 44, Illinois

▲ For more details circle NED-537 E on enclosed inquiry slip ▲

3·WAY FUELING ECONOMY

Fleet Jr.



1 Accurate fuel cost control

2 Faster, safer refueling

3 Padlock provision ends pilferage

Direct drive rotary vane pump, built-in strainer and check and by-pass valve make Fleet Jr. pumps surprisingly inexpensive to operate and maintain.

JOHN WOOD COMPANY

BENNETT PUMP DIVISION • MUSKEGON, MICHIGAN

IN CANADA: JOHN WOOD COMPANY LIMITED

Toronto • Montreal • Winnipeg • Vancouver

▲ For more details circle NED-538 E on enclosed inquiry slip ▲

new..... HEVI-DUTY CIRC-O-THERM OVEN

Temperatures to 250° C. (480° F.)

Improved Temperature Uniformity. With Hevi-Duty's "circle-of-heat" design there are *no cold corners.*

Fast Heat-Up. To 200° C. in less than one hour.

Low-Cost Operation on either 115 or 230 volts. Selector switch permits high or low input to enclosed heating elements.

Durable Double-Wall Construction. Steel outer shell is prime coated on both sides to prevent corrosion.

Accurate Temperature Control by sensitive bulb-type thermostat permits little lag or overshoot.

For complete information, write for Bulletin 458.

Model	Price	Chamber Size		Watts	Volts	Overall Dimensions			Shipping Weight
		Diameter	Depth			Width	Depth	Height	
HK	$169.	15	13	600	115/230	20	18	23	80
HL	$265.	20	18	1000	115	25	23	28	100

HEVI DUTY ELECTRIC COMPANY
MILWAUKEE 1, WISCONSIN

▲ For more details circle NED-539 E on enclosed inquiry slip ▲

New! BEAD CHAIN® DRIVES

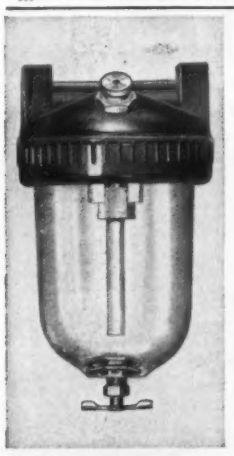
Low-Speed, Positive Drives or Motion Transfer ... At Far Less Cost!

NOW—BEAD CHAIN—QUALIFIED FOR DRIVES

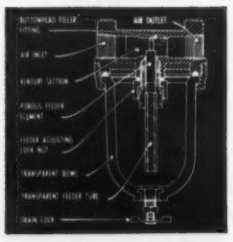
Swivel-like Bead Chain and special non-slip sprockets make any drive possible ... at low cost ... eliminates expensive gears, universal joints, etc. Perfect for inaccessible locations!

THE BEAD CHAIN MFG. CO.
16 Mountain Grove St., Bridgeport, Conn.

▲ For more details circle NED-540 E on enclosed inquiry slip ▲



increase air tool life... with Lincoln airline lubricators



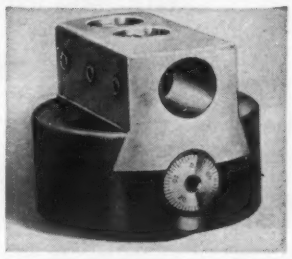
The only way available to lubricate most air-operated tools and equipment is with oil-saturated air. The Lincoln Airline Lubricator automatically oil-saturates, on demand, all air that passes through it... increasing the performance and service-life of your tools and equipment. For further details, write today for Bulletin 228.

1081

Lincoln LINCOLN ENGINEERING CO.
4010 Goodfellow Blvd., St. Louis 20, Mo.
Division of The McNeil Machine & Engineering Co.

▲ For more details circle NED-541 E on enclosed inquiry slip ▲

BORING BAR HOLDERS
2, 3, and 4-in. diameters

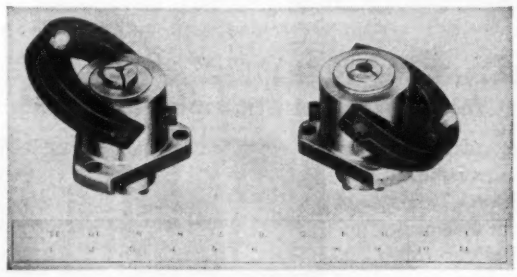


Cross holes to permit boring of extremely large holes are a feature of DBL-102 boring heads. Double-hole adjustable bar holders are available in 2, 3, and 4-in. diameters. They are heat treated and have ground bearing surfaces of ample size for lasting accuracy. • Criterion Machine Works, Costa Mesa, Calif.

▲ For more details circle NED-542 E on enclosed inquiry slip ▲

COLLET HOLDING FIXTURES
for small-area index setups

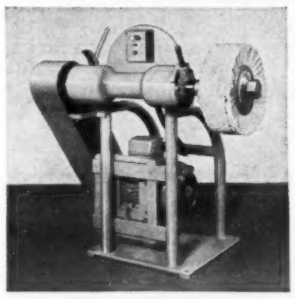
Line of collet holding turn-table fixtures which takes 3 C collets facilitates small-area index setups. Their small size allows close grouping of several fixtures on small



index tables. Standard, small press, chucking, milling, tapping, and other machines can be tooled inexpensively with these fixtures. Height is 2⅜ in., and flange diameter is about 3⅜ in. Collet is operated by horseshoe-type handle with hardened operating cam button. • Zagar Inc., 23880 Lakeland Blvd., Cleveland 23, Ohio.

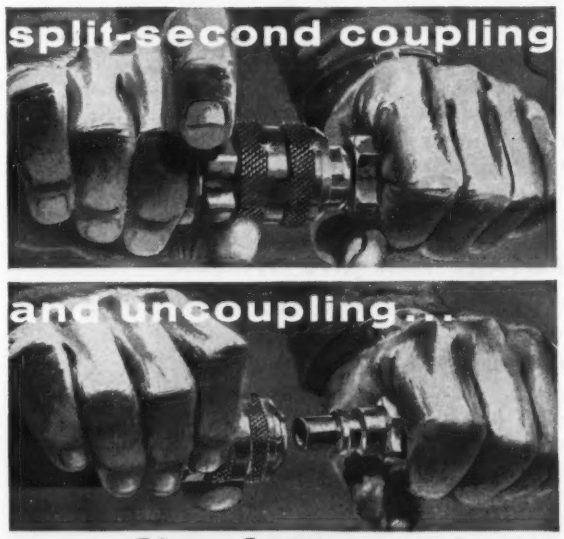
▲ For more details circle NED-543 E on enclosed inquiry slip ▲

POLISHING-DEBURRING LATHE
of 10 to 20-hp capacity



Simplified design of this lathe for polishing, buffing, deburring, and brushing features spindle assembly mounted on a sturdy structural base. The carbon steel spindle runs in permanently-lubricated bearings within a cast iron housing with labyrinth seals. Lathe capacity is from 10 to 20 hp. Spindle is driven by easily replaced multiple V-belt sheaves. A hand brake controls spindle overrun when motor is stopped. Arbors can be ordered in 1½ to 2-in. diameters. Lathe requires 43 x 34-in. floor space. • Murray-Way Corp., Box 180, Birmingham, Mich.

▲ For more details circle NED-544 E on enclosed inquiry slip ▲



with Lincoln Flex-O-Matic®

Lincoln now offers a complete range of sizes in Flex-O-Matic airline couplings. Sockets and plugs provide automatic one way shut-off when uncoupled. Built to Lincoln's exacting specifications for long, trouble-free service. Write today for Bulletin 227, with complete information.

1082

Lincoln LINCOLN ENGINEERING CO.
4010 Goodfellow Blvd., St. Louis 20, Mo.
Division of The McNeil Machine & Engineering Co.

▲ For more details circle NED-545 E on enclosed inquiry slip ▲

22 EXTRA FEET in every pound of ECONO-STITCH BOX STITCHING WIRE

Here's Why:

Standard — Standard flat stitching wire weighs more per linear foot. Therefore, you get fewer feet of wire per pound and none of the extra ECONO-STITCH advantages.

Econo-Stitch — ECONO-STITCH stitching wire eliminates the unnecessary weight of standard flat wire, yet retains full width for holding, full thickness for stiffness, and 15% savings in wire costs.

Fits your standard equipment

Special rounded shape gives you more linear feet per pound, at no extra cost. Rounded-shape ECONO-STITCH presents a smoother closure. No snag, no scuff. Available in any quantity, copper or galvanized finish, in these common sizes: .017, .020, .023 x .103. Fits any standard stitching machine without attachments.

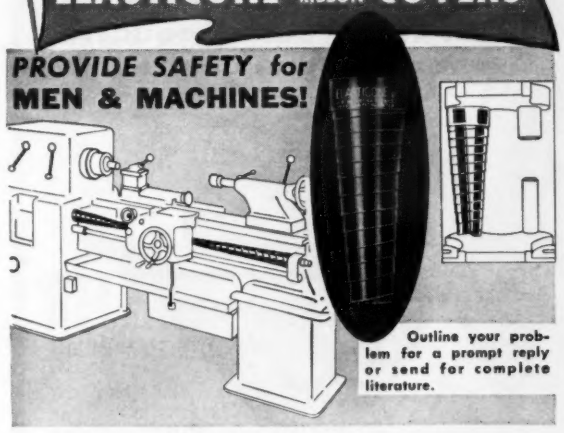
Write for full ECONO-STITCH story today.

ENTERPRISE WIRE COMPANY
Blue Island, Illinois
Also manufacturers of flat stitching wire in a wide range of sizes — and fine specialty wire.

▲ For more details circle NED-546 E on enclosed inquiry slip ▲

OUT GO SHUTDOWNS ... INJURIES ... REPAIRS ELASTICONE® STEEL RIBBON COVERS

PROVIDE SAFETY for MEN & MACHINES!



Outline your problem for a prompt reply or send for complete literature.

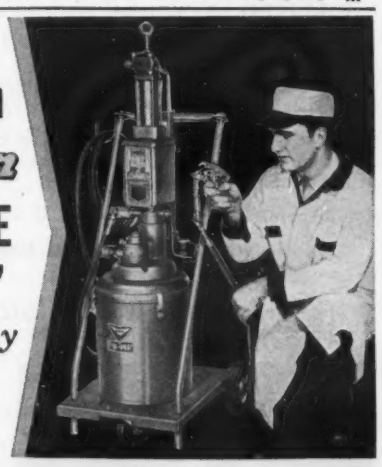
Elasticones are metal-formed, cone shaped covers that open and close automatically to provide protection against dirt, damage, and catching of limbs, for all precision moving parts. Available in all finishes and sizes from ⅜" diameter up to 60" long.

Stocking distributors in principal cities

ELASTICONE DIVISION
CENTRAL SAFETY EQUIPMENT CO.
6607 Marsden St., Philadelphia 35, Pa. • DEvonshire 3-4788

▲ For more details circle NED-547 E on enclosed inquiry slip ▲

NEW from Lincoln PORTABLE "NO-AIR" Dyna-Spray SYSTEM



... for better spray-coating at lower cost

Here is a hydraulic spraying method specially engineered for economical application of paints and other protective coatings —Lincoln's new "No-Air" Dyna-Spray System.

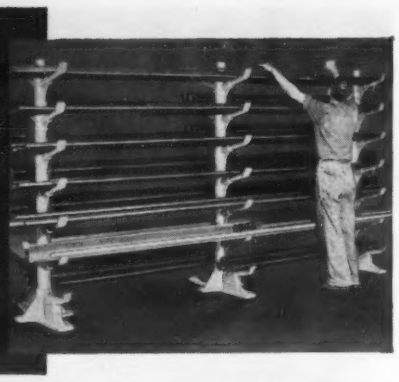
Simple and trouble-free, it requires no atomizing air, no heating of material. Less material is used, and no costly ventilating is required. The five-gallon unit is easily portable, will not tilt. System also available for dispensing from 55-gallon factory drum.

Write today for Bulletin 404-R, giving complete details on Dyna-Spray.

Lincoln LINCOLN ENGINEERING CO.
4010 Goodfellow Blvd., St. Louis 20, Mo.
Division of The McNeil Machine & Engineering Co.

▲ For more details circle NED-548 E on enclosed inquiry slip ▲

SAVE SPACE • SAVE TIME



Store and remove stock quickly—either by hand, fork truck or overhead crane — using the proved Brown Method for efficient storage. Brown Stock Racks, spaced as required, store more in less space . . . reduce handling from a long end haul to a short lateral movement. Stock is quickly visible for fast selection . . . easily accessible from the sides or ends.

Very low installation costs . . . all components are slip-fitted . . . no bolting or tools needed. Base brackets, trays and other accessories are available to increase usefulness. Both single arm wall racks and double arm racks are available.

Brown Engineering Co., 129 N. 3rd St., Reading, Pa.

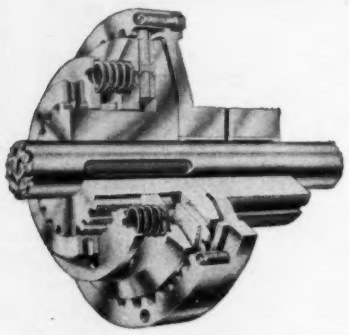
■ Get complete data on Quick-Serve Racks. Write today for bulletin.

BROWN FLEXIBLE STOCK RACKS

▲ For more details circle NED-549 E on enclosed inquiry slip ▲

Safely LIMITED Torque will:

• SAVE YOUR MACHINERY
• IMPROVE YOUR PRODUCTION
• PROTECT YOUR CAPITAL



The HILLIARD ADJUSTABLE Slip Clutch

- PROTECTS against overloads, jams, twisted shafts
- RESUMES the drive automatically after overload
- ELIMINATES shear pins and lost time
- ADJUSTABLE WHILE RUNNING feature is available for constant tension

HILLIARD slip clutches are continuously protecting the drive on dish washing machines . . . printing presses . . . packaging machines . . . case loaders . . . foundry equipment . . . air filters . . . conveyors . . . overhead doors . . . speed reducers . . . and many others.

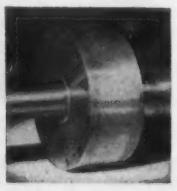
They maintain steady torque while permitting speed variations on fabric drying drums, steel strip slitters and similar equipment.

Sizes available from 3 in. lbs. to 25,000 ft. lbs.

Write today for Bulletins 300 and SC2

• OTHER HILLIARD CLUTCHES •
FOR AUTOMATION • INVESTIGATE THESE CLUTCHES

SINGLE REVOLUTION CLUTCHES for automatic accurate control—electrical or mechanical—of intermittent motion, indexing, cycling and cut-off. Ask for Bulletin 239.



OVER-RUNNING CLUTCHES for automatic instantaneous engagement and release on two speed drives, dual drives and ratchet or backstop action. Ask for Bulletin 231.

HILLIARD-TWIFLEX CENTRIFUGAL COUPLING for smooth, easy starting of any load automatically with overload protection and ability to accommodate shaft misalignment. Ask for Bulletin CE-3.

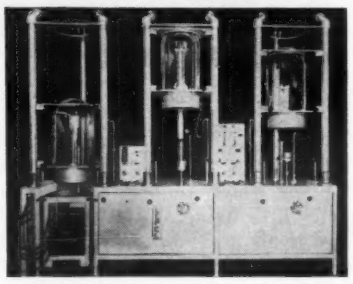
THE HILLIARD CORPORATION
40 W. FOURTH ST. ELMIRA, NEW YORK
IN CANADA: UPTON - BRADEEN - JAMES LTD. TORONTO • MONTREAL

BURGLAR ALARM protects up to 40 file cabinets

Safes, filing cabinets, and other metal objects which can be insulated from the ground are guarded by the Prox-O-Larm. The UL-approved unit may be adjusted to trigger an alarm signal when an intruder approaches to within a few inches of the protected object or to trigger on actual contact only. Alarm will protect up to 40 standard filing cabinets. A single-pole double-throw relay with contacts arranged to open or close any alarm circuit sounds a local alarm or transmits a signal to a central station. Power for over 2000 hr of operation is provided by self-contained dry cells, or the unit can be powered by a 12-v transformer, with the dry cells functioning as automatic standby power. Cabinet measures 11 x 8 x 7 in. • **Walter Kidde & Co.**, 675 Main St., Belleville 9, N. J.

▲ For more details circle NED-550 E on enclosed inquiry slip ▲

BRAZING FIXTURE for controlled atmosphere brazing



Line of production fixtures facilitates induction brazing of metal assemblies under a controlled atmosphere to prevent oxidation on the work. Need for flux is eliminated, and joints produced are uniformly sound. These bell jar fixtures can be made in any combination of fixed and removable stations. The three work stations are operated from a single generator. Photo shows two fixed and one caster-mounted heating station. Latter can be unlatched, water cooling lines unplugged, and the whole assembly rolled out to make room for another station with a new assembly. • **Lepel High Frequency Laboratories, Inc.**, 55th Street & 37th Avenue, Woodside 77, N. Y.

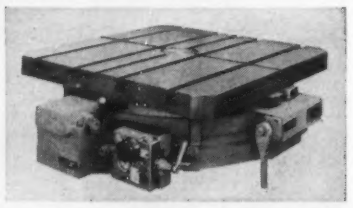
▲ For more details circle NED-551 E on enclosed inquiry slip ▲

VACUUM GAGES transistorized and battery operated

Ranges of 0 to 1000 microns or 0 to 20 mm of mercury are available in this line of portable and panel mounted vacuum gages. The battery operated, transistorized units feature high accuracy, rapid response, direct reading, and matched, interchangeable gage tubes. All models have a ruggedized, sealed electrical indicating meter that is calibrated in terms of pressure. Continuous readings are made without affecting system pressure. Gage tubes connect to the vacuum system by means of a standard $\frac{1}{8}$-in. NPT male pipe thread. • **Hastings-Raydist, Inc.**, Dept. 10, 1500 Newcomb Ave., Hampton, Va.

▲ For more details circle NED-552 E on enclosed inquiry slip ▲

ROTARY INDEXING TABLES used with boring mills and planers



When Airmist rotary tables are indexed, an air-oil mist lifts the top through valves in the way surface of the base, causing the top to "float" on about 0.001-in. of mist. This action effectively and automatically distributes extra heavy loads, even when placed off center. The mist also prevents corrosion from moisture in the lifting air. Tables are available in a broad range of standard round and square sizes starting at 36 in. Special sizes may be ordered. They are usable with horizontal boring mills and milling planers, and are furnished on runways for floor type horizontal boring mills. • **Cincinnati Gilbert Machine Tool Co.**, 3366 Beekman St., Cincinnati 23, Ohio.

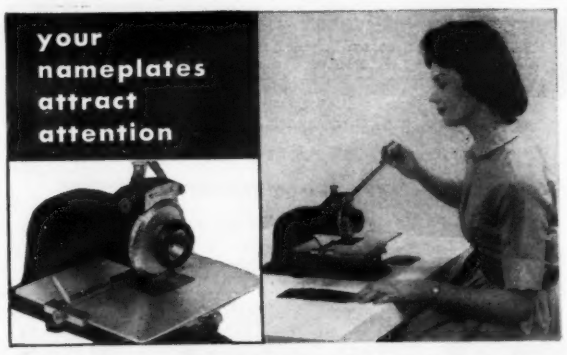
▲ For more details circle NED-553 E on enclosed inquiry slip ▲

YOU SAVE MONEY with *Homestead Lubricated Plug Valves* because of their *controlled* pressurized lubrication. Result? Complete coverage of all sealing

areas . . . no lubricant in the line to contaminate fluids, foul meters, or clog orifices . . . leakproof seal, long valve life, extremely low maintenance. For more money-saving advantages, write for Reference Book 39-1 or check item number.

hv HOMESTEAD VALVE MANUFACTURING COMPANY
P. O. Box 84 • Coraopolis, Pa.

▲ For more details circle NED-554 E on enclosed inquiry slip ▲



Mark Them on the GTS Nameplate Detail Press for Neatest Appearance and Easy Reading

Your nameplates represent you . . . they're your Silent Salesmen. With the GTS Nameplate Detail Press you'll always get sharp permanent nameplate marking . . . that anyone can read at a glance. Never a *blur* on nameplate surfaces.

Automatic spacing, alignment and depth can't vary, unless you change the setting.

You'll find the GTS Nameplate Detail Press a dependable, easy-to-use tool. It's the original, designed and built by GTS. WRITE . . . WE'LL SEND COMPLETE DETAILS.

GEO. T. SCHMIDT, INC.
1800 W. Belle Plaine, Chicago 13, Ill.
IF IT'S WORTH MAKING, IT'S WORTH MARKING

▲ For more details circle NED-555 E on enclosed inquiry slip ▲

New "Better-Matched" Temperature Controllers

The complete story about this brand-new family of Fenwal Transistorized Temperature Controllers is in this free, illustrated bulletin. Tells you how to match controller precisely to application — over a range from −50° to +600° F.

Options include: single-point control . . . single-point control and indication . . . indication of up to ten controlled temperatures . . . ON-OFF or proportioning . . . thermistor sensing . . . set-point adjustment at the instrument or remote . . . and many more.

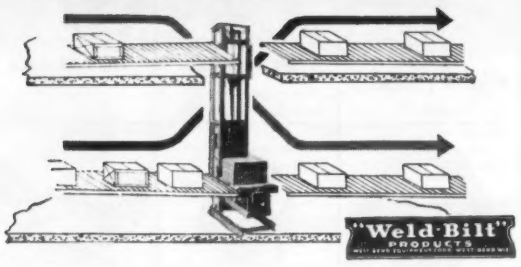
Modern-styled in many colors, all instruments are easy to install. And, advanced Fenwal design and production keep cost *reasonable*. Get the facts *now*. For your bulletin MC-190, write FENWAL INCORPORATED, 275 Pleasant Street, Ashland, Massachusetts.

Another example of how

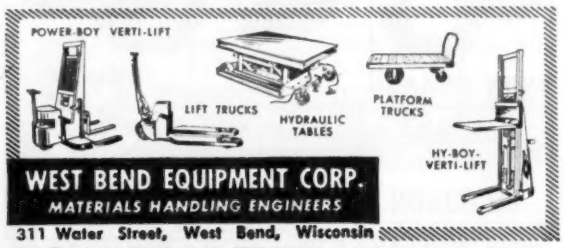
Fenwal Controls Temperature . . . *Precisely*

▲ For more details circle NED-556 E on enclosed inquiry slip ▲

DOUBLE your floor-to-floor Traffic-Handling Speed with Weld-Bilt "Criss-Cross" Automatic Lift Unit

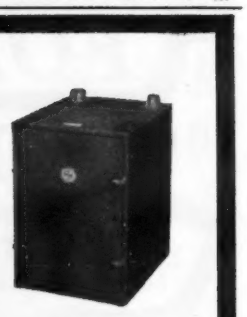


This *single* Weld-Bilt Automatic Conveyor-Lift Elevator — plus two powered Feed Conveyors and two powered Discharge Conveyors — handles, automatically, a greater capacity than two ordinary freight elevators . . . and at much lower cost! Automatic "memory" controls do all the work. Operators merely keep conveyors filled at loading stages. Easily adapted to completely automatic conveyorized feed of unit loads with synchronized loading and discharge at each floor. Get the whole story now. Write for bulletin E-558.



▲ For more details circle NED-557 E on enclosed inquiry slip ▲

how to trap dust *that damages your machines and hurts company morale*



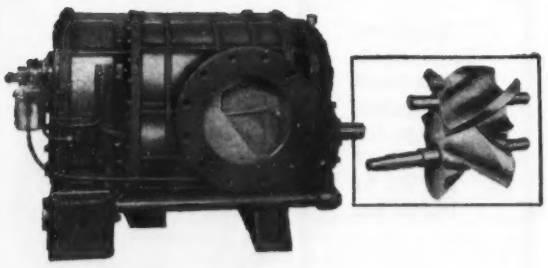
Easy-to-move TORIT dust collectors trap dust at its source!

Untrapped dust costs money: "secretly" forces precision machines out of line, limits production. Torit dust collectors are unitized for custom installation—save more money, usually more efficient than central (built-into-building) system. Torit unit operates only when machine or combination of machines it protects are on. Filtered air may be returned to room to save heat. Many models and sizes, all self-contained, easy to move. Write today to . . .

TORIT *manufacturing co.*
Dept. 201, 1133 Rankin St., St. Paul 16, Minn.

▲ For more details circle NED-558 E on enclosed inquiry slip ▲

AXI-COMPRESSORS



ROTORS NEVER TOUCH although they operate with clearances of a few thousandths . . . so there is no wear, no need for internal lubrication. I-R AXI-COMPRESSORS deliver oil-free air. Unique axial-flow design gives you more output per pound of compressor than any other type . . . with less power consumption. Sizes range from 100 cfm to 15,000 cfm, for vacuums to 25-inches, pressures to 15 psi. *Write for Bulletin 11,001.*

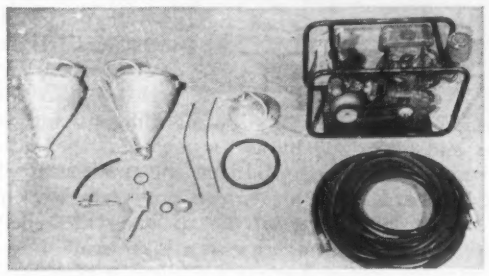
Ingersoll-Rand 17-661
11 Broadway, New York 4, N. Y.

Over 1000 types and sizes of I-R compressors . . . 1/4 to 6000 hp.

▲ For more details circle NED-559 E on enclosed inquiry slip ▲

EPOXY SPRAY GUN applies materials to walls and floors for corrosion protection

Low pressure, high volume QuikSpray epoxy spraying gun is easily assembled for applying heavy bodied, trowel consistency epoxies to floors and walls. A wide

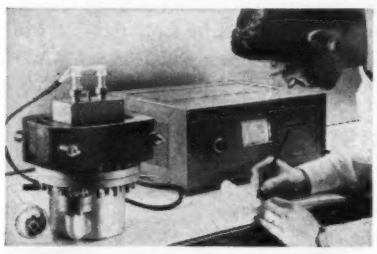


range of formulations, with or without aggregates, is handled at volumes up to 10 cfm. Snap-on air hose connections and interchangeable orifices with rubber inserts make maintenance and cleaning easy.

Adjustable for gravity or pressure spraying, the portable gun includes interchangeable high carbon rubber nozzles and three sizes of plunger air tips for various degrees of spray. Two 1½-gal aluminum cone-shaped hoppers for mixing and spraying are furnished. Rotary type compressor is powered by a 2½-hp gasoline engine or ½-hp electric motor. • **Pennsalt Chemicals Corp.**, Corrosion Engineering Products Dept., Natrona, Pa.

▲ For more details circle NED-560 E on enclosed inquiry slip ▲

ELECTRICAL VACUUM PUMP assembly with no moving parts pumps inert gases at high speed

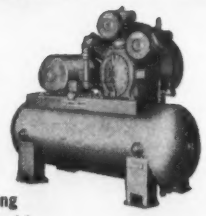


First in a line of new vacuum ion pumps, this PDV-30 DriVac pump incorporates a "sputtering cathode" which gives unit a three-electrode construction to enhance pumping speeds and eliminate pressure surges in pumping inert gases. It delivers air at 25 liters per second, argon at 8 liters per second, methane at 28 liters per second, and hydrogen at 15 liters per second.

Ultimate pressures to 1 x 10^{-10} mm Hg or lower are available with the stainless steel pump when properly baked. It accepts baking temperatures to 450° C. Assembly, comprising the pump, magnet, and PDV-032 power supply, is used in semiconductor processing, thin film work, vacuum tube processing, electron microscopy, mass spectrometry, particle acceleration, electron beam studies, and ultrahigh vacuum research. It weighs less than 90 lb and is priced at $1630. • **Consolidated Vacuum Corp.**, 1775 Mt. Read Blvd., Rochester 3, N. Y.

▲ For more details circle NED-561 E on enclosed inquiry slip ▲

AMPLE AIR is always there... with TYPE 30 AIR COMPRESSORS



Ingersoll-Rand "packaged" Type 30 Compressors are top choice among men who look for dependability combined with low-cost maintenance and maximum efficiency.

- Stainless steel valving
- Individual cylinders with micro-honed walls
- Finned copper intercoolers
- Four-ring piston design
- Totally enclosed centrifugal unloader
- Single and two-stage units —½ to 20 hp

Get the facts on features and performance! Write today for latest literature on Ingersoll-Rand Type 30 Air-Cooled Compressors or see your local I-R representative or distributor.

Ingersoll-Rand
94A-3 11 Broadway, New York 4, N. Y.

▲ For more details circle NED-562 E on enclosed inquiry slip ▲

PLASTIC STEEL® SAVED THIS POWER COMPANY $75,000

This diesel generator unit was out of action because the wet sleeve cylinder liners and block were badly corroded.

PLASTIC STEEL® A (Putty Type) was applied to the corroded areas, allowed to harden for 2 hours and ground smooth. No heat or welding was required. All of the liners were reinstalled — and now, 2 years later, the unit is performing at peak efficiency. Cost of material — only $10.00!

The strongest, toughest, most versatile repair and tooling material available today!

Plastic Steel, THE ORIGINAL EPOXY REPAIR MATERIAL, and other Devcon products are used by steel mills, chemical plants and many other industries for repairing worn parts, salvaging cracked castings, sealing leaking hydraulic systems and tanks — building up worn pumps and valves — altering cams and gears — repairing fuel and water lines — even under pressure. Approved under Mil. Spec. MIL-C-15202. Bonds iron, steel, aluminum, brass, bronze, wood, ceramic, etc. to itself or each other. Write today for free case histories.

DEVCON CORPORATION
141 ENDICOTT STREET, DANVERS, MASS.

A COMPLETE LINE OF QUALITY PRODUCTS FOR PERMANENT REPAIRS AND PLASTIC TOOLING.
Order a supply from your local Industrial Distributor today. Free catalog and engineering reports available on request.

Reg. U. S. Pat. Off.

▲ For more details circle NED-563 E on enclosed inquiry slip ▲

how to "PEEL" residue glue from a coating tank

apply
RELEASE-COTE
THE MIRACLE RELEASING AGENT

With just a thin film of RELEASE-COTE on tank surfaces, glue and adhesives peel "like skin off a banana."

TRYOUT OFFER! $1.00

A generous supply of RELEASE-COTE for you to test. (Note how operators like RELEASE-COTE'S gentleness).

Distributed by
POTDEVIN MACHINE CO. 273 North Street Teterboro, N. J.
World's largest producer of coating machines.

▲ For more details circle NED-564 E on enclosed inquiry slip ▲

more capacity per horsepower with cradle-mounted pumps

HERE IS a dependable pump with exclusive Ingersoll-Rand features and proven design:

Higher Efficiencies—less power consumption

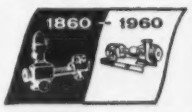
Maximum Strength—greatest possible rigidity and support strength

Easier Accessibility—extra large side openings, split-type stuffing-box glands

Driver Flexibility—use electric motor, steam turbine or gasoline engine

Complete data on the full line of I-R Cradle-Mounted Pumps is in Catalog 7223-B. Send for your copy today or see your local I-R representative or distributor.

91A-9



A CENTURY OF PUMP PROGRESS from the leading Manufacturer

Ingersoll-Rand
11 Broadway, New York 4, N. Y.

▲ For more details circle NED-565 E on enclosed inquiry slip ▲

STACKPOLE

CERAMIC

MAGNETS

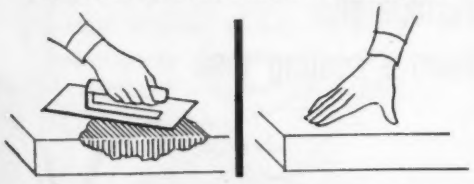
THE PERMANENT MAGNETS THAT ARE REALLY PERMANENT

It's next to impossible to demagnetize Stackpole Ceramagnet® (ceramic) permanent magnets under any normal use! They permit simplified low-cost equipment assemblies — no keepers or pole pieces needed! Can be magnetized either before or after assembly. Many other advantages! Write for Ceramagnet Bulletin RC-11A.

STACKPOLE CARBON COMPANY
St. Marys, Pa.

▲ For more details circle NED-568 E on enclosed inquiry slip ▲

NEW, QUICK, SURE WAY TO PATCH CONCRETE FLOORS



With new Thoropatch, you'll save time and money and get a solid, durable, renewed floor that doesn't look patched. No other cement patch can top these benefits to you:

- Dries to natural concrete color.
- No crusting—curing is complete throughout.
- Highest compressive strength in its field.
- Excellent resistance to most industrial acids.
- Smooth, easy, non-stick troweling.
- Tough feather edges.
- Self curing—fast curing.

Don't accept inferior patching materials. If you do the job right the first time, you won't have to do it over. Standard Dry Wall Products Inc. has been a leader in masonry maintenance since 1912. Write for free Thoropatch brochure.

THOROPATCH

Standard Dry Wall Products Inc.
Box X-11, New Eagle, Pennsylvania

▲ For more details circle NED-569 E on enclosed inquiry slip ▲

NOW HEAR THIS

- 3 rugged styles
- shoulder straps
- pin-point or flare sound

Take your **POWERED VOICE** *anywhere inside the plant or out*

WHEELER POWER MEGAPHONES

You can really "belt out" commands on any job inside or out with these powerful, lightweight megaphones. Battery powered, long life, transistorized. Makes you heard under all conditions. Send for complete literature and prices today!

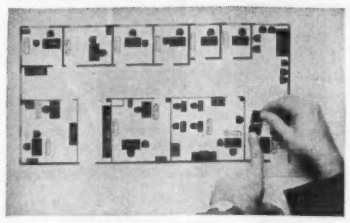
Send for WHEELER SAFETY CATALOG

Complete bible on safety clothing. (63 pages). A complete line of heat, acid, abrasion and impact resistant clothing. All essential ordering information. Get your copy today!

WHEELER PROTECTIVE APPAREL, INC. 234 W. Huron St., Chicago 10, Ill. SUperior 7-1156

▲ For more details circle NED-570 E on enclosed inquiry slip ▲

OFFICE LAYOUT KIT
vinyl symbols are self-adhering



Scaled 1/8 in. to the foot, this office planning kit consists of a 20 x 50-in. plastic planning board with grid, marking pencil, tape, and representative symbols for all types of office furniture and equipment. Forty-eight different size templates and over 1200 pieces are included. Self-adhering vinyl symbols are placed on the translucent plastic grid board, adhering firmly until removed by a flick of a finger. There is no stickiness or adhering agent. This kit, and another in a 1/4-in. scale, is available in black or nonphotographic blue. • **Planoramics, Inc.**, 8 E. First St., Boston 27, Mass.

▲ For more details circle NED-571 E on enclosed inquiry slip ▲

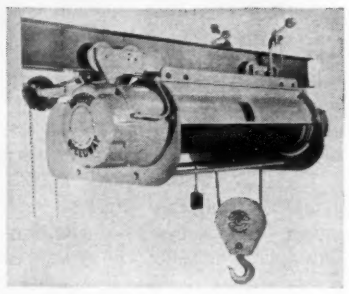
FLUORESCENT LAMP GUARD
prevents lamp falling from socket

Fluorescent lamps are prevented from falling from their fixtures under conditions of extreme vibration by the Gets-A-Lite guard and guide. Made of copper-coated

spring steel wire, it slips on the fixture to hold the lamp securely, even if the ends are spread. Installed without tools, they permit easy changing of lamps. Price is 10 cents each. • **Gets-A-Lite Co.**, 3865 N. Milwaukee Ave., Chicago 41, Ill.

▲ For more details circle NED-572 E on enclosed inquiry slip ▲

ELECTRIC HOIST
geared-trolley unit lifts 12,000 lb



Design of Speedway Frame 3 electric hoist affords headroom of only 40 in. and lift capacity of 12,000 lb for application in steel mills, foundries, and other heavy industry. It incorporates a lift of 115 ft at 20 fpm, and can negotiate a 7-ft radius curve. Offset from its normal operating position to accommodate the curve, hoist has a concrete-filled cylinder on opposite side of monorail as a counterbalance. Solenoid operated, fan-cooled motor brake permits load spotting. Enclosed 7.5-hp motor, built for 220-v 60-cycle three-phase operation, will operate on 440 v by reconnecting the leads. Single and two-speed, or variable speed motors can be furnished. • **American Chain & Cable Co.**, Wright Hoist Div., York, Pa.

▲ For more details circle NED-573 E on enclosed inquiry slip ▲

INERT-GAS WELDERS
are consumable electrode type

A full range of metals and thicknesses are handled by Sigmamatic consumable electrode, inert-gas welding machines. Frame, sled, and cart type mountings of standardized welder components are available. Machine uses any shielding gas, including argon, helium, carbon dioxide, or mixtures. Torches include ratings from 200 to 500 amp for continuous fusion welding (spray or short arc) or spot welding. Wire feed units handle solid or cored wire in all popular diameters. Electronic controls, designed for constant-potential power source, are easily converted to use conventional constant-current power supplies. A unit which delays wire feed until arc is struck and a control which permits continuous operation without depressing the torch trigger are optional. • **Linde Co.**, 420 Lexington Ave., Room 2840, New York 17, N. Y.

▲ For more details circle NED-574 E on enclosed inquiry slip ▲

Available in Stainless Steel, Silicon Bronze, Brass, Aluminum and Steel

JACOBSON NUT MFG. CORP. Kenilworth, New Jersey

▲ For more details circle NED-575 E on enclosed inquiry slip ▲

FORM! TWIST! SWAGE! WELD!

NATIONAL-STANDARD *Nickelply* wire can improve your product...*

National-Standard Nickelply wire is steel wire electro-plated with nickel in coating weights up to 10% for diameters up to .340". The nickel jacket, with either a bright or matte finish, is precisely concentric and inseparably bonded to the wire . . . can be formed, twisted, swaged or welded without fracturing the nickel jacket or exposing the base metal . . . ideal for corrosion resistance, for decorative uses and for certain high ambient temperature services.

* T.M.

NS NATIONAL STANDARD COMPANY

NATIONAL-STANDARD COMPANY
Niles, Michigan

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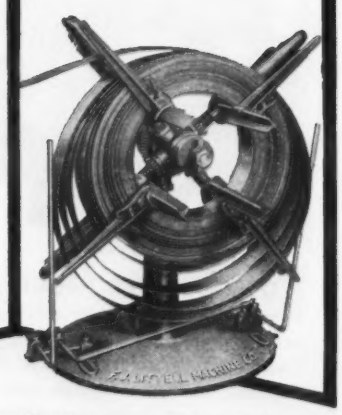
LITTELL REELS

Single and Double Reels In the Small and Medium Range, for coils of 100 lbs. to 10,000 lbs.



All the famed Littell ease of loading, automatic centering, and smooth, accurate unwinding . . . plus new, fast delivery! Plain and motor driven. Write for full information.

F. J. LITTELL MACHINE CO. Speed with safety

SERVING USERS OF COIL STOCK
Branches: Detroit Cleveland

Ask for Catalog "D"

4169 N. RAVENSWOOD AVE., CHICAGO 13, ILL.

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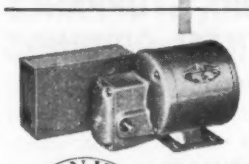
Franklin Motors INST-O-VERSE®
FOR NEW PRODUCT APPLICATION

FULL TORQUE CAPACITY for instant reversing available in 1 ph., 1725 RPM, 115 or 230 V., 1/6 through 1 H. P. sleeve or ball bearing motors. NEMA frame or special mountings. Franklin INST-O-VERSE enables use of 1-phase instead of 3-phase reversing motors . . . and the cost is less.

WHERE GEAR REDUCTION is required, ratios to specifications with epicyclic, worm, bevel or other gears open new applications with INST-O-VERSE instant reversability. Single or multiple shaft outputs with manual or automatic selectivity.



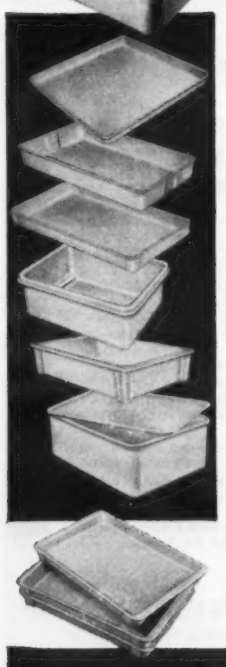
GEAR-O-MATIC includes all functional benefits of any signal-transducing system applied to energize or instantly reverse geared power unit. Limit switches, automatic safety stop and provision for remote control are built into this package.

"FRANKLINEER" YOUR PRODUCT FOR DEPENDABILITY
Write for INST-O-VERSE *facts folder*

FRANKLIN ELECTRIC
Franklin Electric Co., Inc.
BLUFFTON, INDIANA

▲ For more details circle **NED-578 E** on enclosed inquiry slip ▲

How TOTELINE can cut *your* costs on parts handling



Improve your handling of small parts and make substantial economies by switching to Toteline tote boxes or trays for handling small parts. Here's how:

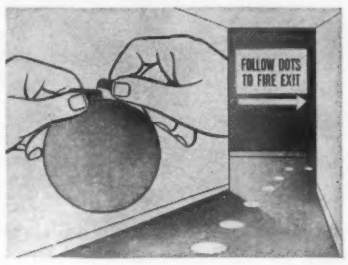
- Replace wooden, steel, enameled or fiberboard boxes with Toteline products — made of reinforced molded fiber glass which can't rust, splinter, crack or tear. It's stronger than steel, pound for pound.
- You get a box for handling or storing parts which is light for easy lifting, stacks easily without toppling and lasts indefinitely.
- Boxes and trays can be cleaned by dipping in hot water. There are no corners or crannies for dirt to lodge.
- Toteline trays and boxes, with wire reinforced edges for greater strength, provide resistance to many chemicals (laboratory reports available).
- You eliminate maintenance expense. No re-painting, no chipping or cracking. Toteline products last for years. You don't scrap broken, battered boxes or trays.
- You benefit from constant tare weight.
- Toteline provides exactly the box you want, molded to your specifications.
- Engineering help on material handling problems is available.

by TOTELINE

MOLDED FIBER GLASS TRAY CO., LINESVILLE, PA.
OFFICES IN PRINCIPAL CITIES AND CANADA
World's Largest Producer of Reinforced Plastic Trays and Tote Boxes

▲ For more details circle **NED-579 E** on enclosed inquiry slip ▲

COLORED FLOOR MARKERS
of self-adhesive wearproof plastic



Easily applied to office, warehouse, or industrial plant floors, yellow, red, green, or white self-sticking markers and directional arrows are made of fade-resistant, wearproof vinyl. Unaffected by oil, grease, acids, salts, cleaning compounds, and most solvents, they outlast paint 7 to 1 in actual tests. Easily stripped from protective Zip-Tab liner, markers adhere securely to any dry surface. They are used as aisle markers or as guides to emergency equipment, exits, or first aid stations. Yellow arrows are placed over or adjacent to the dots for directional purposes. • **W. H. Brady Co.**, Dept. AM, 727 W. Glendale Ave., Milwaukee 9, Wis.

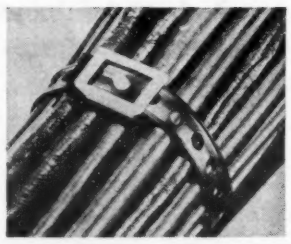
▲ For more details circle **NED-580 E** on enclosed inquiry slip ▲

SAFE SPOT LIGHT
wire guard prevents accidental burns

Line of White Lite incandescent lighting fixtures is now available with the Koolguard nickel - plated wire guard which covers the shade and protects user against accidental burns. Guard is now standard on White Lites and can also be ordered separately for lights now in use. Lights are available for all supplementary industrial, commercial, machinery, assembly, office and lab applications. Model G2LAC shown has two 18-in. arms which are adjustable to any desired position. Base clamps to any thickness from ¾ to 3 in. • **O. C. White Sales Co.**, 44 Green St., Marblehead, Mass.

▲ For more details circle **NED-581 E** on enclosed inquiry slip ▲

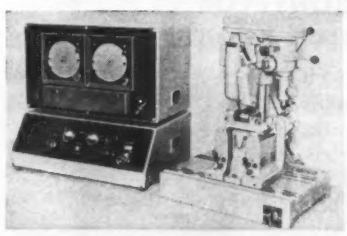
NYLON RATCHET BUCKLE
extends use of perforated strapping



Versatility of perforated nylon strapping is increased with this one-piece molded nylon ratchet buckle in sizes for ⅜, ½, or ⅝-in. wide strapping. Buckle holds one end of strapping fast on its ratchet button, allowing the other end to be adjusted to desired tightness around bundles of wires, cables, rods, tubing, and pipe. A plier-style tightening tool is available for making very tight bundles. Nylon strapping is available in 25 or 50-ft rolls. • **Weckesser Co.**, Dept. ND-3, 5701 Northwest Highway, Chicago 46, Ill.

▲ For more details circle **NED-582 E** on enclosed inquiry slip ▲

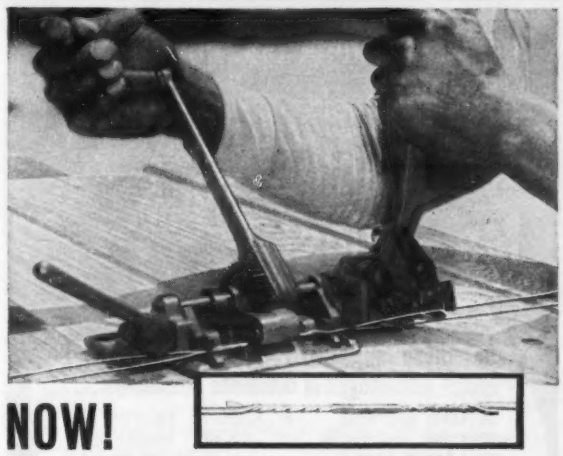
DYNAMIC BALANCING MACHINES
two models show unbalance in small parts and rotors of 0.03 to 20 lb



Bench-type, ultra-precise Schenck R06 and R16 dynamic balancing machines for miniature gyroscope rotors and assemblies, small motors, and turbochargers accept belt, air, electrically driven, or self-powered workpieces. Rotor weight range for the R06 is 0.03 to 6 lb; for the R16, 0.1 to 20 lb. Rotating speeds can be anywhere from 1500 to 30,000 rpm. Balancer clearly indicates unbalances which create work-support movements as small as ½ millionth of an inch.

Condition is shown simultaneously in two planes by light spots on two calibrated circular screens. Photoelectric pickup synchronizes between the indicated unbalance and its location in the workpiece. Balancer shown has built-on drill press for correcting unbalance conditions. Balancing cycle can be made automatic for electrically driven workpieces and lasts 5 to 15 sec depending on rotor weight and speed. • **Cosa Corp.**, 405 Lexington Ave., New York 17, N. Y.

▲ For more details circle **NED-583 E** on enclosed inquiry slip ▲



NOW!
Save 50-80% on strapping

Twice as much for the money . . . Oval steel strapping gives you high tensile strength . . . a greater lineal feet per pound yield. Countless users have cut their strapping costs 50 to 80%. *Easier to use.* Just *one* tool to tension, twist and cut the strapping. You save time, manpower and equipment investment. *Full details.* Circle the reader service card, or write:

A. J. GERRARD & COMPANY / STRAPPING MATERIALS
410 East Touhy Avenue • Des Plaines, Illinois

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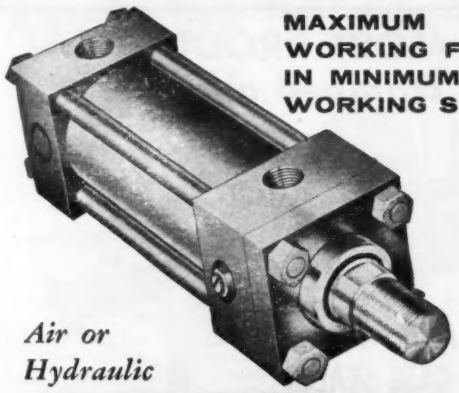
MAXIMUM WORKING FORCE IN MINIMUM WORKING SPACE



Air or Hydraulic

milwaukee CYLINDERS

- Quality Construction Throughout
- Guaranteed Top Performance
- No Costly Down Time
- Precision Designed — Heavy Duty Service
- Conforms to JIC Specifications

Get all the facts and see how Milwaukee Cylinders can save space and weight . . . Save on original cost and save on maintenance. *Write today for Free Bulletins A-100 and H-100.*

Standard Models Hydraulic Bore Size 1½ to 12" Air Bore Size 1½ to 14" *Specials built to your specifications*

MILWAUKEE CYLINDER CO.
Division of L. & M. Machine Company
5755 SO. PENNSYLVANIA AVE., CUDAHY, WIS.

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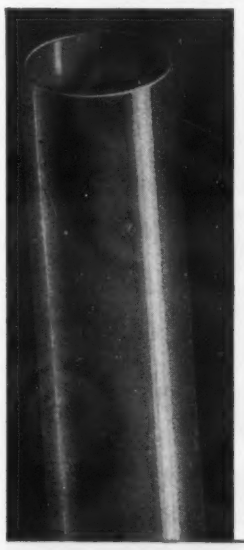

NEED COMMERCIAL COPPER TUBE?

WRITE

WOLVERINE TUBE
DIVISION OF CALUMET & HECLA, INC.
17270 Southfield Road
Allen Park, Michigan

J-7444 Manufacturers of Quality-Controlled Tubing and Extruded Aluminum Shapes Dept. A

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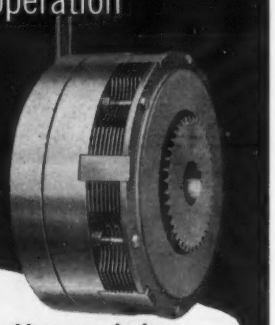
better machine operation
. . . lower costs
with Fawick Magnetics!



Get these important clutch advantages in machines you design...

INSTANT RESPONSE — to automatic electrical or electronic controls in "wet" or "dry" installations.
FULL-POWER TORQUE — accurately controlled through straight-line relationship between coil voltage and torque output.
SMOOTH OPERATION — through contact action of multiple precision driving and driven discs.
COMPACT, READY TO USE — with all components assembled, ready for installation and use.

Call or write today for full information

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FAWICK CORPORATION
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FAWICK MAGNETIC

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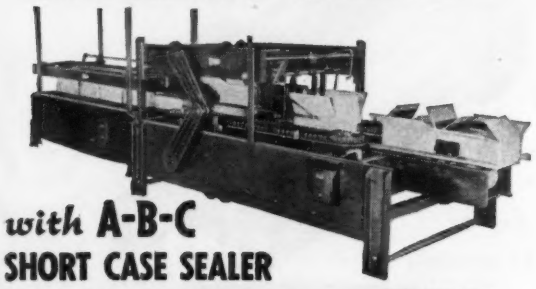
Get MORE PRODUCTION in cramped quarters—



with A-B-C SHORT CASE SEALER

Save two-thirds of your valuable floor space with the A-B-C Short Case Sealer—with increased packaging efficiency, more speed, less expense . . . Automatically glues, folds and seals either or both top and bottom flaps of shipping cases in one operation. Made in eight models to fit any production requirement. Hot air heaters dry the glue in one-half the time. Speeds up to 30 cases per minute.

TOP QUALITY CASE HANDLING EQUIPMENT

Whatever your packaging job, A-B-C has a production proved machine for you—case sealers, unloaders and unscramblers, side sealers, and hand gluers.

WRITE NOW FOR DETAILS AND FLOOR PLANS

A-B-C PACKAGING MACHINE CORP.
TARPON SPRINGS, FLORIDA

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Hardness Readings in 2 seconds!

Webster PORTABLE Hardness Testers FOR NON-FERROUS METALS

TWO LOW-COST MODELS differing in sensitivity for rapidly testing hardness of aluminum, brass, copper, etc. No training required; one hand operation. Hardness readings in 2 seconds anywhere in shop. Can be correlated to standard hardness scales. Quick reading dial. Special anvil design tests all shapes: sheets, extrusions, tubing, strip stock. Capacity ¼". Simple, rugged design, easy maintenance.

MODEL B Direct hardness readings on all aluminum alloys.

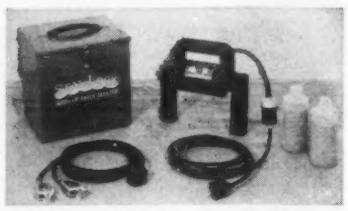
MODEL B-75 Direct hardness readings on copper, brass, etc.

Other models available

WEBSTER INSTRUMENTS, INC. Dept. N, 11856 Mississippi Ave. Los Angeles 29, California

▲ For more details circle NED-589 E on enclosed inquiry slip ▲

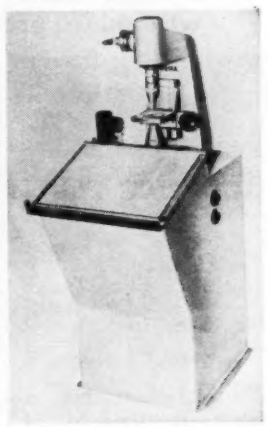
SUBSURFACE CRACK DETECTOR is portable, 110-v ac instrument



Subsurface as well as surface cracks, flaws, and defects in any ferro-magnetic metal are readily detected with this Model S-20 Seal-Lock magnetic crack detector. Fully portable and weighing only 30 lb, it operates from any 110-v ac power source or an auto battery. Models are offered for other ac or dc voltages. Defects as deep as ½ in. below the surface are located. It uses the magnetic particle inspection principle. Kit includes necessary probe, connector, sprinkling bulb, and grey and yellow powder, all in a steel carrying case. • **United States Casting Repair Corp.**, 6432 Edmund St., Philadelphia 35, Pa.

▲ For more details circle NED-590 E on enclosed inquiry slip ▲

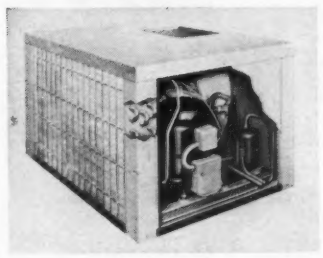
OPTICAL COMPARATOR offered with five magnifications



Bench and console models of the Swiss-made Isoma M-108 optical comparator are suited for use in the manufacture of instruments, apparatus, and tools. It produces high contrast, distortion-free images and has uniform lighting to the screen edge. Its 10, 17½, 40, 50, and 100 X magnifications are extremely accurate with diascopic or episcopic lighting. Projected image is measured on a glass scale. Measuring capacity of 0.004 in. corresponds to 0.00004 in. on the object when using 100 X magnification. Corrected green filter can be inserted at any time to prevent eye fatigue. Light source is a 6-v, 100-w lamp. • **S & S Machinery Co.**, 140 53rd St., Brooklyn 32, N. Y.

▲ For more details circle NED-591 E on enclosed inquiry slip ▲

CONDENSING UNITS 3, 4, and 5-ton nominal sizes



Large capacity centrifugal blower of Type 938 remote waterless condensing units assures quiet operation under any climatic condition. Line of 3, 4, and 5-ton nominal sizes is for installation with coil and cabinet or air handling units. All controls except the thermostat are enclosed, and all parts are easily accessible for service. Weatherproofing adapts them for outdoor use in any climate. They are shipped assembled, precharged with refrigerant, and prewired. • **Worthington Corp.**, Mueller Climatrol Div., 2005 W. Oklahoma Ave., Milwaukee 1, Wis.

▲ For more details circle NED-592 E on enclosed inquiry slip ▲

TELESCOPING CONVEYOR retracting boom reaches into trucks

Retractable boom which can be extended into or withdrawn from trucks and trailers as loading requires is feature of Telescoveyor telescoping belt conveyor. It has a stationary base with the extendible self-powered boom movements controlled by a bar running the full length. A deadman safety device on the end prevents injury to stacker or parcels. Boom speed is 19 fpm, and belt speed is variable from 10 to 30, 13 to 40, or 16 to 48 fpm, depending upon model. Units are available in 18 to 48-in. widths, over-all lengths from 33½ to 57½ ft, with boom motors from ¾ to 1½ hp, and belt motors from ¾ to 3 hp. • **Samuel Olson Mfg. Co.**, Dept. ND-5, 2418 Bloomingdale Ave., Chicago 47, Ill.

▲ For more details circle NED-593 E on enclosed inquiry slip ▲

ENGINEER ENDS WORK STOPPAGES CAUSED BY ACCIDENTAL GROUNDS

Maintenance engineer Tom Regan reports complete elimination of production shutdowns (due to accidental grounding) through the use of the Brunt Faultfinder. Regan, who recently located and cleared an accidental ground in twenty minutes by using a Faultfinder, says: "It paid for itself with this one use. A similar ground, before we had the Faultfinder, took three days to locate." Get the full details on the money-and-time-saving Brunt Faultfinder. Write today to Parr Manufacturing, 48 Austin St., Newark, N. J.

▲ For more details circle NED-594 E on enclosed inquiry slip ▲

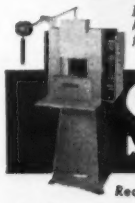
Sentry Hardened Tools

Stay Sharper Longer

There's no better "insurance" against costly, premature dulling of your high speed production tools than reliable Sentry hardening. Sentry's unique Diamond Block provides a truly neutral atmosphere that permits heat treating for maximum hardness without danger of scale or decarburization . . . keeps your production tools sharper longer.

Like a free demonstration? Send us your sample high speed steel tool and we'll Sentry harden it for you free of charge.

9-0



Sentry ELECTRIC FURNACES

Request Catalog G-17 Write THE SENTRY CO., FOXBORO, MASS.

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LIGHT WHEN YOU NEED IT

. . . automatically with F-P controls

Fisher-Pierce photoelectric lighting controls automatically turn on lights in parking lots, railroad yards, docks, loading areas, storage and security areas—whenever daylight drops to preset turn-on setting—regardless of weather or time of day. Turn-on setting is adjustable, never needs re-setting; various models available with turn-on from 1 to 500 f.c. Easy to install, housed in weatherproof watt-hour meter case. Reliability and ruggedness proven by ten years of use.
Standard Model 63300C switches lamp loads up to 3000 watts, special model switches 6000 watts; SPST, SPDT or DPST power contactors. For 105-130 or 210-250V, 50/60 cycles. For larger loads, control can be used with low-cost F-P Type 250A Multiple Relays. Bulletin on request. Write The Fisher-Pierce Co., 86 Pearl Street, So. Braintree 85, Mass.

FISHER FP PIERCE
PHOTOELECTRIC LIGHTING CONTROLS
AN AFFILIATE OF SIGMA INSTRUMENTS, INC.

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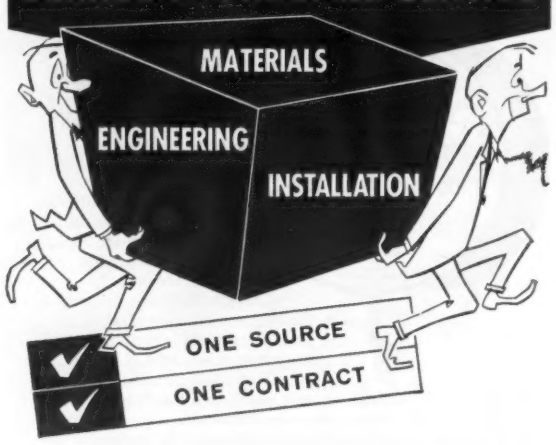
CEILCOTE OFFERS THE ONLY COMPLETE PACKAGE CORROSION-PROOFING SERVICE



Save time and money by consulting Ceilcote about ALL your corrosion problems. Ceilcote's extensive facilities and 33 years of experience in the installation of flooring, tank linings, pits, piers, waste disposal and ventilation systems assure you complete satisfaction.

Write for information.

CEILCOTE THE CEILCOTE COMPANY, INC.
4838 Ridge Road • Cleveland 9, Ohio

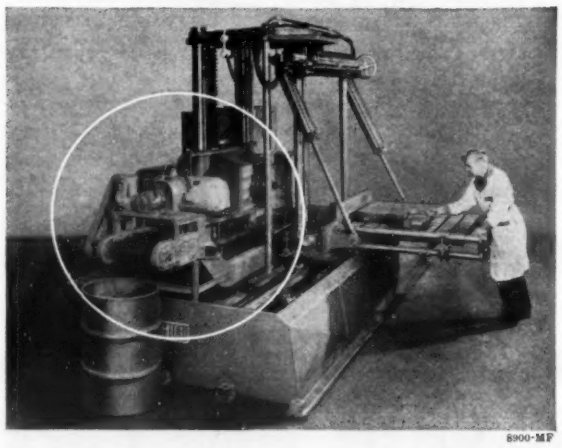
8880-CC

▲ For more details circle NED-597 E on enclosed inquiry slip ▲

MAY-FRAN CHIP-TOTE

FEATURED ON HILL

TAPE-CONTROLLED HIGH-SPEED DRILLING AND BORING MACHINES



8900-MF

SCRAP REMOVAL IS AUTOMATIC AND CONTINUOUS!

Here is another excellent application for the May-Fran CHIP-TOTE CONVEYOR for the handling of chips, turnings and borings from metal working machines.

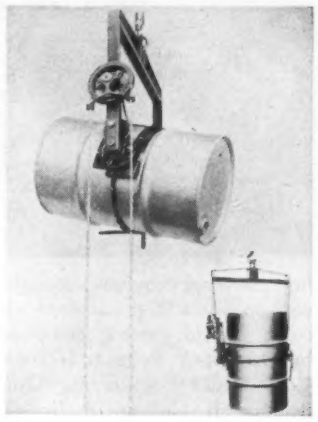
In the photo above, the CHIP-TOTE is shown as an integral part of a HILL automatic and tape-controlled high-speed drilling and jig boring machine (a product of Walter P. Hill, Inc.) because the CHIP-TOTE automatically and continuously removes all scrap from the machine, operation through an entire production run can be obtained without shut-down because of scrap build-up.

May-Fran CHIP-TOTE units are available for attachment to almost every kind and type of machine tool in use today. If you have a scrap handling problem involving wet or dry chips, turnings or borings, write today for your copy of MF-640 which describes the CHIP-TOTE in detail.

MAY-FRAN ENGINEERING, INC.
1711 Clarkstone Rd. • Cleveland 12, Ohio

▲ For more details circle NED-598 E on enclosed inquiry slip ▲

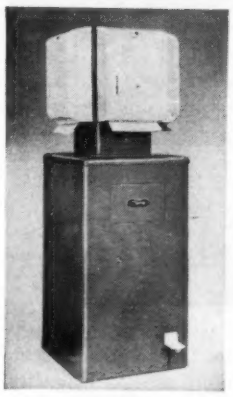
DRUM POURING DEVICE
hooks onto monorail hoist or crane



Controlled pouring of standard 55-gal drums at any height or location is possible with Model 185 Kontrol-Karrier, a drum tipping device which hooks to monorail hoist, crane, or chain block. Carrier saddle is chain locked to drum, and tipping is controlled by one man on the floor handling the chain loop. Unit will handle 800-lb liquid, or 500-lb dry loads and is available with special saddles for fiber drums. • Morse Mfg. Co., 727 W. Manlius St., East Syracuse, N. Y.

▲ For more details circle NED-599 E on enclosed inquiry slip ▲

USED TOWEL RECEPTACLE
self-tamping increases capacity



One Turret-Tamp receptacle for used paper towels can be substituted for three or four ordinary units. Its tamping action compresses the used towels tightly into a paper bag, forming a disposable bale. Tamping action takes place every time the foot pedal opens the door to deposit more waste. A Turret-Tainer top holds one, two, or three towel dispensers and has a locked compartment for storing extra towels. A can of waterless hand cleaner can replace one dispenser on the turret. Baked enamel finished Turret-Tamp is made in two sizes: 15½ and 20 in. square, both 59 in. high. Models without turret top are also available. • D. J. Alexander Corp., 2944 E. Venango St., Philadelphia 34, Pa.

▲ For more details circle NED-600 E on enclosed inquiry slip ▲

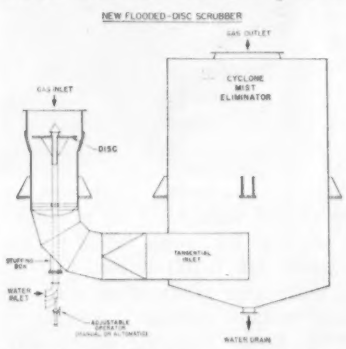
PALLET LOADING MACHINE
one man palletizes 1000 bags hourly

One man can load standard bagged materials on pallets for fork lift truck transportation at a rate of 1000 bags per hour with this pallet loader. System involves using the powered turntable station with standard Power-Curve flexible loader and swivel stacker. Bags are propelled into position on the pallet in any pattern, with operator guiding each bag. While loaded pallet is removed by fork lift, turntable is rotated to position a new pallet. Bags can also be glued automatically to prevent shifting. • Power-Curve Conveyor Co., 2185 S. Jason St., Denver 23, Colo.

▲ For more details circle NED-601 E on enclosed inquiry slip ▲

GAS CLEANER
removes sub-micron process fumes

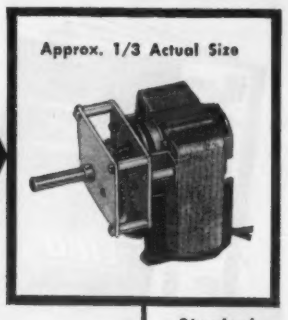
Efficient cleaning of gases is effected by this flooded-disc scrubber. It will even collect sub-micron fumes which occur in chemical processes, open hearth and blast furnaces, and similar processes. It adjusts automatically for peak cleaning efficiency over a wide range of operating conditions, as much as 50 per cent higher or lower than normal. Equipment is designed for modern high gas pressures, withstands abrasion and is easy to maintain. Wash water is recirculated without drop in performance. • Research-Cottrell, Inc., Bound Brook, N. J.



▲ For more details circle NED-602 E on enclosed inquiry slip ▲

NEW-SMALL GEAR TRAINS

Approx. 1/3 Actual Size



OPERATED by 115 Volt - 60 Cycle A. C. MOTORS

Manufacturers of small motivated devices can now obtain quickly and without tooling charges any Wilson's standard Series "A," "C" or "D" gear train unit powered by high quality shaded-pole motor for use on 115 volt, 60 cycle circuits.

Standard steel gears of 24DP and 48DP, made to close tolerances and in many sizes, produce a wide range of speed reduction ratios. Pinions are brass, splined into center holes of gears to insure concentricity and secure staking. Precision made — minimum backlash — low cost — fast delivery on standard units.

For small tooling charge, mounting brackets to accommodate other motors can be supplied.

Standard Series "A" "C" and "D" Gear Trains

3/16" or 1/4" Output Shafts

Ratios Up To Over 1,000,000 to 1.

FREE TO ENGINEERS

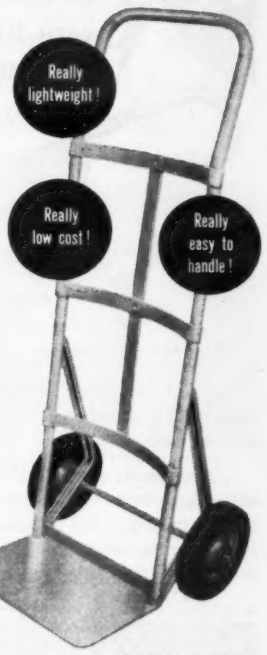
Write for book showing styles, dimensions, ratios, voltages, quantity prices.

Wilson's of Cleveland
P. O. Box 8995, Ft. Lauderdale, Fla.
Specialists in Small Mechanical and Electrical Components

▲ For more details circle NED-603 E on enclosed inquiry slip ▲

Amazing New Fairbanks Truck

"MITEY HANDY" Utility Truck



Now Fairbanks quality in an all-steel welded construction utility truck at a really low price. And, with such ease of handling! One-piece frame with truck-wide handle permits one-hand holding or moving—other hand free to open doors. Stair climber eases load over curbs or stairs. With curved crossbars, the Fairbanks "Mitey Handy" handles round or square cartons, boxes, kegs or bags. Comes with semi-pneumatic wheels in 6", 8" or 10". You can't match this "Mitey Handy" for use on delivery trucks, in stock rooms, hotels, motels or just about everywhere!

THE Fairbanks COMPANY

Executive Office:
393 Lafayette Street, New York 3, N. Y.
Branch Offices:
Boston, Mass.; Chicago, Ill.; New York, N.Y.
Pittsburgh, Pa.; Rome, Ga.

Fig. No. C-110

▲ For more details circle NED-604 E on enclosed inquiry slip ▲

Place your order for BRASS Tube

With

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DIVISION OF CALUMET & HECLA, INC.
17272 Southfield Road
Allen Park, Michigan
Manufacturers of Quality-Controlled Tubing and Extruded Aluminum Shapes

J-7568 DEPT. A

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For more details circle NED-606 E on enclosed inquiry slip

ELIMINATE BUGABOOS OF CORROSION AND MAGNETISM WITH KNU-VISE STAINLESS STEEL CLAMPS

Knu-Vise stainless steel toggle clamps eliminate frustrating magnetic attraction and corrosion while spot welding, or while working near acids.

The complete stainless steel line contains 18 clamps with either horizontal, vertical, or T-style handles. There are types for side mounting and pull clamps as well. Write today for complete information. A standard or a special Knu-Vise clamp will probably be the answer to your application.

Manufacturers of over 150 models of manually and air-operated clamps and pliers

KNU-VISE PRODUCTS LAPEER MANUFACTURING CO.
3062 DAVISON ROAD
LAPEER, MICHIGAN
WESTERN DIV.: PECK and LEWIS CORPORATION 4436 Long Beach Ave., Los Angeles 58, Calif., ADams 3-7146
CANADIAN DIV.: HIGGINSON EQUIP. SALES LTD. 1131 Pettit Road, Burlington, Ontario

For more details circle NED-607 E on enclosed inquiry slip

ELECTRIC OVEN • Only $121.50 F.O.B. Chicago

GRIEVE-HENDRY PORTABLE ELECTRIC OVEN

FOR PRODUCTION OR LABORATORY USE

Model CR-1
10 cu. ft. capacity—30" wide x 25" deep x 24" high. Removable shelves and drip pan.

Quick Quotations —Prompt Delivery — Reasonable Prices — on Ovens made to your specifications.

Portable. Adjustable temperature control to 225°F. Fan driven forced air circulation. Uniform temperature throughout. Plugs into any 110V wall outlet—no special wiring required. Can be used in a group or bank.

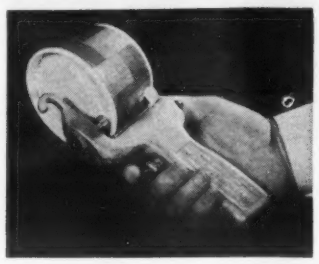
Other standard models with temperature ranges to 1000°F available.

Specialists in Heat Process Equipment

GRIEVE-HENDRY CO.
1353 N. ELSTON AVE., CHICAGO 22, ILL.

For more details circle NED-608 E on enclosed inquiry slip

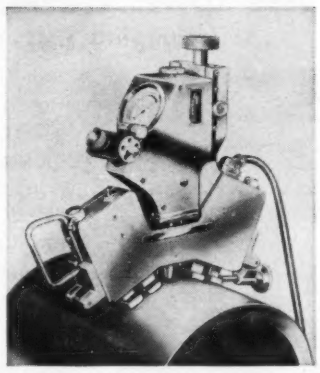
EPOXY SPRAY GUN
holds resin in expendable cups



Nonclogging, easy to clean Resin Flow epoxy spray gun handles formulations in the 50 to 30,000 - centipoise viscosity range. Expendable cardboard cups, offered in two sizes, hold from ½ to 2 lb of premixed resin for spraying. Several nozzle openings are available. Gun operates on 50 to 60-psi air and weighs only 1½ lb with its cup. Liquid parting compounds can also be sprayed by the unit. Price is $60. • **United States Gypsum Co.**, Plastic Engineering Group, Dept. 139, 300 W. Adams St., Chicago 6, Ill.

For more details circle NED-609 E on enclosed inquiry slip

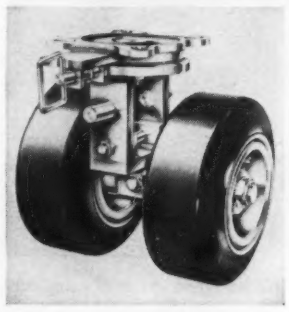
PORTABLE HARDNESS TESTER
clamps electromagnetically to part



Vickers hardness readings of either curved or flat surfaces can be obtained with this British portable hardness tester. Designed to operate on 110/240 v, 40/60 cycle ac, tester is held by electromagnetic clamp having four pole pieces, two of which adjust for different degrees of part curvature. Unit is useful for testing mill roll hardness and makes tests in grooves only 2 in. wide and to a depth of 7 in. Loads up to 30 kg are manually applied by hydraulic unit. Capacity spans hardness range of 150 to 1100 DPH (diamond pyramid hardness, or Vickers). Optical indicating micrometer is accurate to ±0.001 mm. Instrument can also be fitted with a 1 or 2-mm steel ball. • **Steel City Testing Machines, Inc.**, 8817 Lyndon Ave., Detroit 38, Mich.

For more details circle NED-610 E on enclosed inquiry slip

DUAL-WHEEL CASTER
load ratings range to 15,000 lb



Illustrated Model 18-10X4 dual-wheel caster is especially suited for towing at relatively high speeds. Of self-aligning type, it is usable on heavy duty transporting dollies and has a load rating of 2500 lb at 10 mph. It has two 10 x 4-in. solid tires with vulcanized rubber tread, roller bearings, and a four-position swivel lock. Other models have load ratings to 15,000 lb. • **Faultless Caster Corp.**, Dept. PR-188, 1421 N. Garvin St., Evansville 7, Ind.

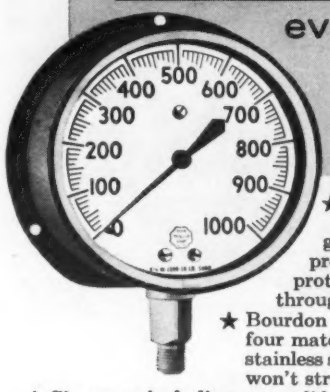
For more details circle NED-611 E on enclosed inquiry slip

INDICATING BELLOWS METER
for flow and liquid level use

Typical applications for this mercury-less bellows meter with 6-in. dial are indicating steam, air, gas, and water volume of industrial processes and side streams or cuts from fractionating towers. By substituting spring assemblies, any of 15 differential ranges from 0-20 to 0-400 in. of water are available. Calibrated accuracy is ±1 per cent of full scale for 0-50 in. range and above and ±1¼ per cent for ranges below 0.5 in. Standard scale calibrations are 0-100 linear, or 0-10 and 0-100 square root, with other graduations available upon request. Features include ambient temperature range of −40 to 175° F, linear damping adjustment, and seamless stainless steel bellows. • **Minneapolis-Honeywell Regulator Co.**, Brown Instruments Div., Wayne & Windrim Avenues, Philadelphia 44, Pa.

For more details circle NED-612 E on enclosed inquiry slip

Helicoid Gages give *Sustained Accuracy*, even on the toughest jobs



★ Exclusive Helicoid movement has no gears, no teeth. Shock-proof construction protects accuracy through millions of cycles.
★ Bourdon tubes available in four materials—bronze, steel, stainless steel, and K Monel—won't stretch, crack, or leak.
★ Six cases, including new solid-front safety case, meet every mounting requirement.
★ External pointer adjustment can't be jarred out of position.
★ A complete selection of gages and accessories for hydraulic, chemical, and other service.

Write for Catalog DH-65.

HELICOID GAGES ACCO
Helicoid Gage Division
American Chain & Cable Company, Inc.
929-J Connecticut Avenue • Bridgeport 2, Conn.

For more details circle NED-613 E on enclosed inquiry slip

Sensational Results of Scale Removal!
With The New
MOGUL Kwik-Kleen

From all parts of the country come reports—
"It's fast, efficient, economical"
"Does not harm man nor metal"

MOGUL KWIK-KLEEN does a rapid scale removing job and is completely safe to use. It is non-corrosive and does not attack metal, valves, gaskets, packing or paint. Does not harm workman's skin, his clothing and shoes. No undesirable odors nor toxic fumes.

The North American MOGUL Products Co.
STANDARD BUILDING
CLEVELAND 13, OHIO

Write today for Case History Brochure on MOGUL KWIK-KLEEN results.

40 YEARS OF PROGRESS...AND STILL GROWING

For more details circle NED-614 E on enclosed inquiry slip

FLAMELESS BLOW TORCH

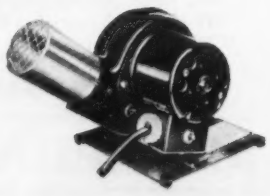
FOR QUICK HEAT UP TO 1000° F.

For applications requiring quick concentrated heat blast up to 1000° F. without flame. Soften, form, mold and patch plastics, etc. Temperature varied by air intake adjustment. 110-120 V. AC-DC motor, 8 ft. heavy duty cord. Intermittent duty.

Other models available with lower temp. ranges

Most of the big names in industry use MASTER in laboratories or in production

AIR HEATER BLOWER



For quick electrically heated air up to 500° F. For accelerating drying processes or for localized heating. B.T.U. 3400. Air velocity 2000 FPM. 110-130 V. AC only. 8 ft. heavy duty cord. Continuous duty. 2" dia. x 3" long discharge nozzle.

Order through your local laboratory or industrial supplier or direct.
300° F.—1000 Watts
500° F.—1400 Watts

MASTER Appliance Corp., Racine, Wisconsin

For more details circle NED-615 E on enclosed inquiry slip

Togetherness

matters with industrial fasteners, too!

Togetherness, industrial style, has a special meaning at Thompson-Bremer because we are one of the few fully integrated manufacturers of Sems, lock washers, thread-cutting screws, terminals and cold-headed specialties. It means we can give you faster, more specialized service at competitive prices. You want your assemblies to go together economically and stay together reliably—that's what our EVERLOCK fasteners have been doing for our customers since 1918. Send for catalog and samples or call your EVERLOCK representative, and let's get together on your fastener needs.

AMF Everlock INDUSTRIAL FASTENERS

Thompson-Bremer & Co.
Dept. 32, 228 N. LaSalle St., Chicago 1, Ill.
Division of American Machine & Foundry Company

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Data Processing in Paper Mill

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- Training • Production Control • Surveillance
- Property Protection • Material Handling
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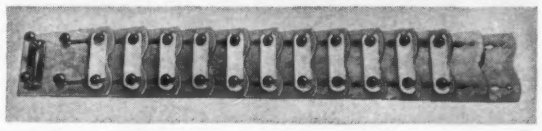
What Every Businessman Should Know About Closed Circuit TV

GP **GPL DIVISION**
GENERAL PRECISION, INC.
PLEASANTVILLE, NEW YORK

▲ For more details circle **NED-617 E** on enclosed inquiry slip ▲

ADJUSTABLE BELTING
for variable speed applications

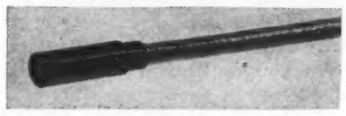
Top widths from 7/8 to 4 in. are offered in Hypowa adjustable variable speed belting, interchangeable with molded endless variable speed belts and wood block



belts. Compression resisting link type construction permits quick assembly of any required length and extreme longitudinal flexibility. Belting is oil and heat resistant and is packaged 13 ft to the carton. • **Brammer Corp.**, 486 Broadway, New York 13, N. Y.

▲ For more details circle **NED-618 E** on enclosed inquiry slip ▲

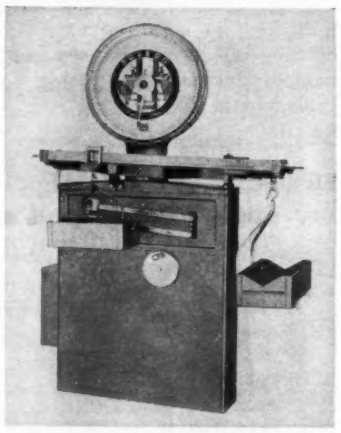
PROXIMITY PICKUP
oil and waterproof miniature unit



Both ferrous and nonferrous metal parts having a diameter of less than 1/10 in. are detected by the Model 4914 WPL probe type proximity pickup. The hermetically sealed unit for use while submerged or on machines using cutting oil or coolants has a 3/8-in. diameter sensing face and over-all length of 1 1/4 in. Mounted at the point of work, the pickup has a 10-ft cable connected to a proximity control unit. Metal object in close proximity causes an electrical pulse or relay closure that actuates mechanical, electrical, or electronic equipment. It detects stationary or moving metal pieces at a rate up to 60,000 per minute. Price is $24.50. • **Electro Products Laboratories, Inc.**, 4500 N. Ravenswood Ave., Chicago 40, Ill.

▲ For more details circle **NED-619 E** on enclosed inquiry slip ▲

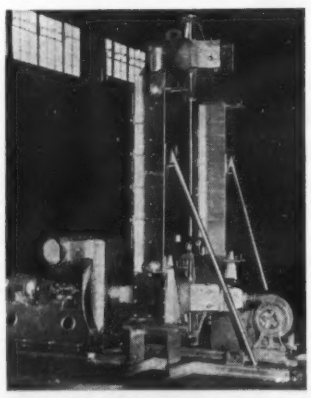
COUNTING SCALE
weigh-counts large items



Direct reading beam incorporated in this variable ratio counting scale provides easy reading of the quantity count. Its movable variable ratio pan provides a count using only 1, 2, 5, or 10 pieces. Scale is suited to the counting of items too large to make weigh-counting with small fixed ratio pans practical. It is adaptable to manual weighing operations, as well as its primary use in counting unknown quantities or weighing predetermined quantities. Fixed ratio pan also adapts the scale for use as a double ratio unit. • **Toledo Scale Corp.**, Toledo Scale Div., 1213 Telegraph Rd., Toledo 12, Ohio.

▲ For more details circle **NED-620 E** on enclosed inquiry slip ▲

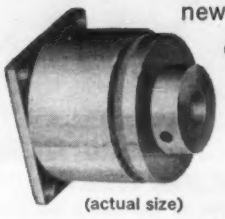
TEST HEAT EXCHANGERS
used to evaluate new applications



Performance of an air preheater when applied to fuel burning equipment where the flue gas characteristics are unknown is determined by high temperature experimental test heat exchangers. They are designed to evaluate proposed applications of equipment to new processes. Hot air and hot gas ducts are connected on each side of the unit. Hot gas alternates down through each leg every 15 sec and cooled gas exits through a bottom duct. Air to be heated is drawn in by a forced draft fan and enters at the bottom and is directed alternately through each leg containing a standard Ljungstrom heating element. Heated air leaves through a top duct. Timer mechanism operates dampers which cause alternating flows. Maximum gas inlet temperature is 1500° F. • **Air Preheater Corp.**, Wellsville, N. Y.

▲ For more details circle **NED-621 E** on enclosed inquiry slip ▲

Warner announces . . . new miniature electric brakes and clutches for low-torque instrument drives


(actual size)

Need automatic control of torque loads up to 1.5 lb-in. for compact instrument drives, aircraft/missiles components, and similar applications? Two-piece floating armature avoids complex alignments, speeds assembly. Ask your Warner representative for a desk-top demonstration of the speed, adjustability, and control-*ability* of this compact electric brake and clutch.

WARNER ELECTRIC BRAKE & CLUTCH CO.

WARNER **Beloit, Wisconsin**

▲ For more details circle **NED-622 E** on enclosed inquiry slip ▲

What does your towel service cost?

You can raise the standard of service ...yet reduce the cost by using Mosinee Turn-Towls!

1. 417 towels per roll mean less cabinet filling
2. Push button control means 40% to 50% less towels used
3. Pure sulphate towel means fast drying — extra strength
4. Fewer towels used mean less washroom maintenance

Write for name of nearest distributor

MOSINEE Sulphate Towels
BAY WEST PAPER CO.
1084 W. Mason St.
GREEN BAY • WIS.

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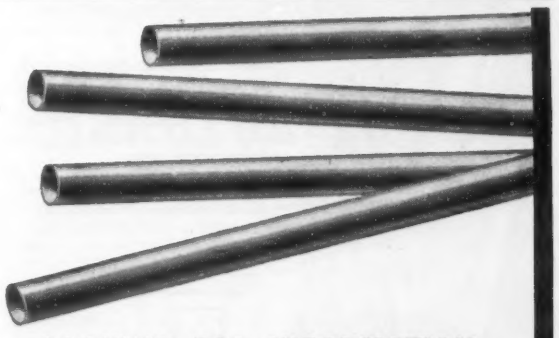

LOOKING FOR INFORMATION ON ALUMINUM TUBE?

WRITE FOR

Dept. A

WOLVERINE TUBE
DIVISION OF
CALUMET & HECLA, INC.
17272 Southfield Road
Allen Park, Michigan
Manufacturers of Quality-Controlled Tubing and Extruded Aluminum Shapes

J-7721

▲ For more details circle **NED-624 E** on enclosed inquiry slip ▲

TRIAL SAMPLE

Of World-Famous WHITMORE'S Lubricants NOW IN AEROSOL SPRAY-ON CANS!

WIRE ROPE SPRAY LUBRICANT

Exclusive formulas for lubricating and protecting wire rope, chain, springs. Penetrates to the core of wire rope minimizing internal friction and increasing usable life up to 300% —special protective qualities absolutely eliminate corrosion—non-gumming qualities reduce "carry-back"—packaged in handy 16 oz. aerosol spray-on containers or in bulk containers—send for a free trial sample.

65 YEARS OF LEADERSHIP

LUBRICATING THE FOLLOWING:

- Open Gears, Dipper Sticks, Cams
- Hydraulic Units, Torque Converters
- Speed Reducers
- Enclosed Gear Cases
- Roller, Ball, and Sleeve Bearings
- Wire Rope and Cable

Est. 1893

THE WHITMORE MANUFACTURING CO.

LUBRICATING ENGINEERS

CLEVELAND 4, OHIO, • VULCAN 3-7272

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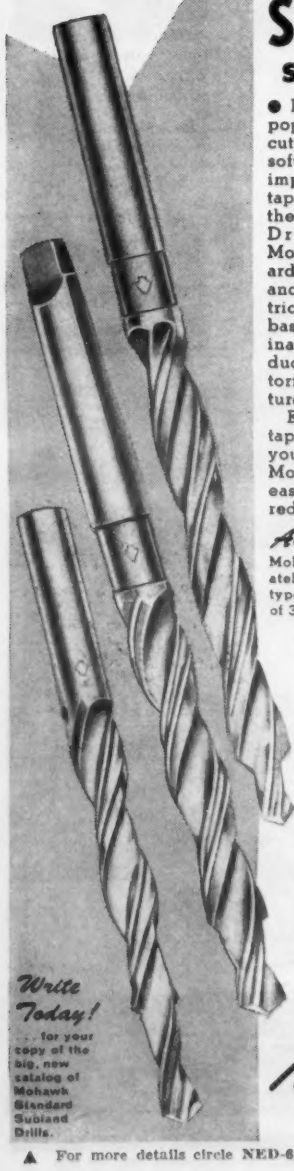
YOU SAVE MORE OF THESE* BY USING THESE

*Fluteless (non-cutting) taps for cold forming threads in soft metal such as aluminum, zinc, copper, brass, leaded steels, etc.

MOHAWK STANDARD SUBLAND DRILLS

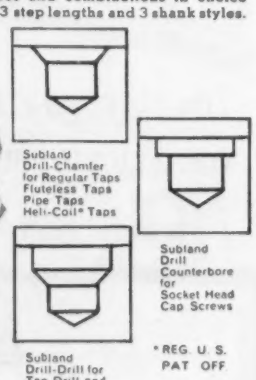


● If you are now using the popular new fluteless (non-cutting) tapping principle for softer metals, you can further improve and simplify your tapping operations through the use of Mohawk Standard Drill-Chamfer sublands. Mohawk drill-chamfer "standards" will simultaneously drill and chamfer clean, concentric holes that will speed your basic tapping operation, eliminate breakage and scrap, reduce your drilling tool inventories, eliminate jig and fixture movement.

Examine your drilling and tapping costs, then see for yourself how many places a Mohawk "standard" could easily improve the job and reduce your costs.

Available from Stock—

Mohawk "standards" are immediately available in all practical sizes, types and combinations in choice of 3 step lengths and 3 shank styles.



*REG. U. S. PAT. OFF.

Write Today! ... for your copy of the big, new catalog of Mohawk Standard Subland Drills.

Mohawk TOOLS, Inc.
Montpelier, Ohio

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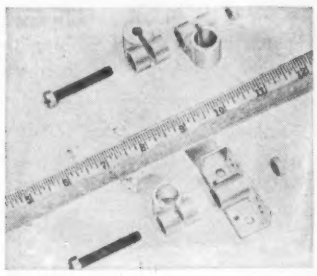
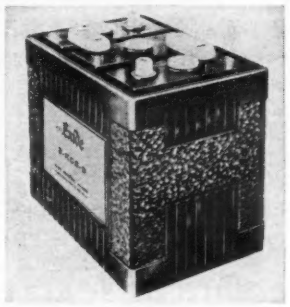
ROD & PIPE ASSEMBLERS for structures, fixtures, supports



Speed and ease of assembly, high strength, and infinite adjustability are reported advantages of Rotocon assembly fittings for tubes, rods, and pipes, usable in industry, laboratories, instrumentation, and automation. The versatile diecast zinc alloy assemblers grip tubes or pipe tightly without distortion or marring. Toothed faces of paired fittings form rigid joints at 10-degree increments, and tightening recessed screw locks position and tubing. Snap-Clamp units facilitate additions to existing structures or fixtures. Sizes are offered for range of diameters, and types are made for mounting on wood or metal bases, for mounting limit switches and other devices, and for use with electrical BX. Free sample kit is obtainable by writing. ● **Unistrut Products Co.,** Rotocon Div., 933 W. Washington Blvd., Chicago 7, Ill.

▲ For more details circle NED-627 E on enclosed inquiry slip ▲

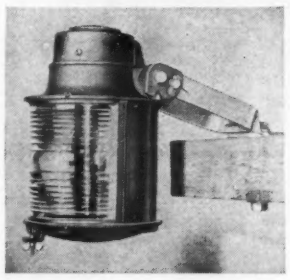
INDUSTRIAL TRUCK BATTERY minimum service life is 4 yr



Designed for light duty lift trucks, in-plant delivery trucks, and maintenance carts, the Exide 3-KCS-9 three-cell 6-v battery delivers 9 to 30 per cent more electrical energy than automotive types it replaces. With a predicted minimum service life of 4 yr, it will keep trucks working through long shifts without intermittent charging. It has 180 amp-hr capacity at 20 hr rate of discharge and 143 amp-hr at a 6-hr discharge rate. Battery is equipped with either bare or wing nut terminals. ● **Electric Storage Battery Co.,** Exide Industrial Div., Rising Sun & Adams Avenues, Philadelphia 20, Pa.

▲ For more details circle NED-628 E on enclosed inquiry slip ▲

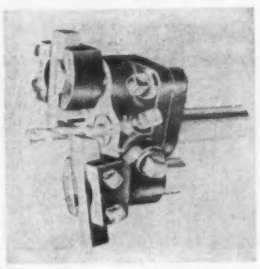
FENCE FLOODLIGHT casts a light band around an area



Wide horizontal beam spread is combined with narrow vertical beam spread in Type PLB Fresnel floodlight, providing a band of light completely around a given area to discourage intruders. Lights are normally mounted on a pole about 30 ft from a fence at a proper height to overlap beam patterns. Light projects outward, providing maximum glare to an intruder and the best possible visibility to a watchman. Light can be furnished for use on multiple (for short fence lines) or series (for long fence lines) circuits, and for cross-arm or pipe mounting. ● **Crouse-Hinds Co.,** Syracuse 1, N. Y.

▲ For more details circle NED-629 E on enclosed inquiry slip ▲

MULTIPURPOSE TURNING TOOL for turret lathes, screw machines



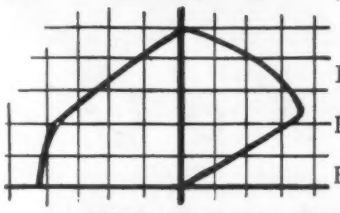
Use as a right or left hand turning tool, centering facing or knee tool, roller box floating drill holder, backrest, or pointing tool is possible with this multipurpose tool. It duplicates the operations of 14 separate tools in use on turret lathes or screw machines. Operations performed include drilling, chamfering, turning, centering, turning shoulders, turning and forming special shapes on ends of parts while simultaneously drilling and reaming, turning two diameters while drilling or reaming, and turning and chamfering two corners while facing part ends and drilling and reaming. Standard and special shanks permit interchanging the same tool in different size machines. ● **R & L Tools,** 1825 Bristol St., Philadelphia 40, Pa.

▲ For more details circle NED-630 E on enclosed inquiry slip ▲

Newest Addition to **STEWARD'S MAGNET FAMILY**

ORIENTED F-500

CERAMIC PERMANENT MAGNET



BH=3.5 x 10^6 G.Oe

Hc=2000 Oe

Br=3900 G

High Energy Product For:

APPLICATIONS: • LOUDSPEAKER MAGNETS • MAGNETIC SEPARATORS AND OTHERS REQUIRING HIGH BH PRODUCT AND COERCIVITY.

Look to D. M. Steward Manufacturing Company for all of your Ceramic Magnet requirements.

Write for F-500 brochure to:

D. M. STEWARD MFG. CO.
3620 JERROME AVE. • CHATTANOOGA, TENN.

▲ For more details circle NED-631 E on enclosed inquiry slip ▲

HYDRAULIC

REMOTE CONTROL SYSTEMS

Completely self-contained . . . single tube . . . remote control eliminates use of compensators. Rugged and reliable . . . used in engine, machine tool and many other factory applications . . . wherever positive, accurate, instant duplication of movement is needed . . . no "sponginess."

EASILY INSTALLED

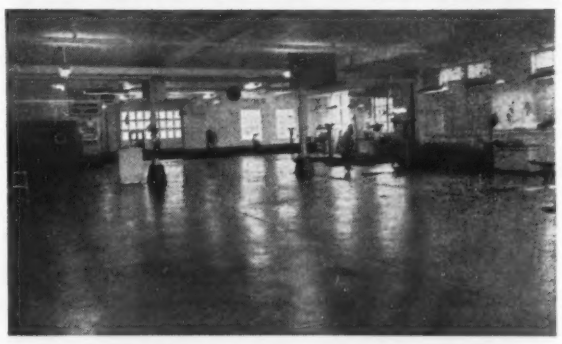
Sperry CONTROLS

HYDRAULIC REMOTE CONTROLS

Representatives in Principal Cities

SPERRY PRODUCTS CO. • 1705 SHELTER ROCK RD. • DANBURY, CONN.

▲ For more details circle NED-632 E on enclosed inquiry slip ▲



Scientific treatment gives concrete lasting beauty

Here's a low-cost Method that transforms a drab, dingy concrete floor into an attractive, colorful, easy-to-maintain surface of which you can be proud.

For new and old concrete. The MULTI-CLEAN METHOD of Floor Care is a complete, scientific program for new or old concrete. It calls for right materials, right equipment, right technique.

Under this METHOD your concrete floors are cleaned, hardened, dustproofed, and finished in your choice of clear or 7 attractive, non-fading colors. Easy to clean, resistant to abrasion, water, acids, alkalis, grease, oils, soaps, solvents.

Saves time, money. Besides providing an attractive, long-wearing surface, the scientific MULTI-CLEAN METHOD saves you hours of maintenance, gallons of material. For new folder describing step-by-step METHOD for initial treatment of new concrete or restoration of old, see local MULTI-CLEAN Distributor or write . . .

MULTI-CLEAN Method

MULTI-CLEAN PRODUCTS, Inc. Dept. NE-56-50, 2277 Ford Parkway, St. Paul 16, Minn.

▲ For more details circle NED-633 E on enclosed inquiry slip ▲

H&K PERFORATED MATERIALS

. . . the most complete selection of traditional and contemporary designs

. . . for all requirements, industrial and decorative

. . . facilities for perforating most metallic and non-metallic materials

FIND NEAREST H&K AGENT IN THE 'Yellow Pages' Listed Under "Perforated Metals"

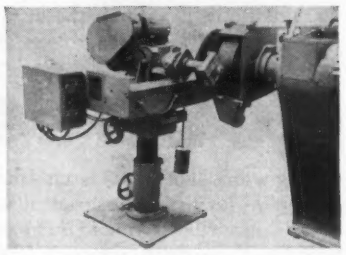
Write for General Catalog 75 and/or Stock List Brochure

THE Harrington & King PERFORATING CO. INC.

Chicago Office and Warehouse • New York Office and Warehouse
5658 Fillmore St., Chicago 44 114 Liberty St., Dept. NED, New York

▲ For more details circle NED-634 E on enclosed inquiry slip ▲

WORK HOLDING MACHINE
for lathes, abrasive belt machines

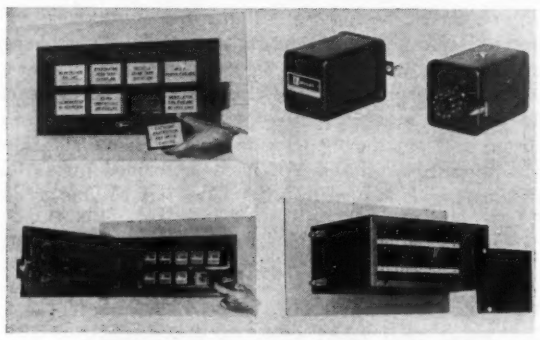


Workpieces in shapes other than round are easily held by the automatically cycled Model EPC cammed work holding machine for polishing or buffing by lathes or abrasive belt machines. It also holds round parts with diameters up to 14 in. Cam and work are moved into contact with the cam follower and wheel by pressure weights. Speed of movement is controlled by an air cylinder. Preset timer permits work to dwell at the wheel for up to 1 min. Weight is varied to suit the finishing pressure and cams are designed to the workpiece and finish. Two cross slides have 7 in. travel. • **Hammond Machinery Builders, Inc.**, 1600 Douglas Ave., Kalamazoo, Mich.

▲ For more details circle NED-637 E on enclosed inquiry slip ▲

LAMP ANNUNCIATORS
modular, plug-in units detect and indicate abnormal status changes

Plug-in circuits, multiple lamps, snap-in indicator plates, and sequential circuits are among features of these flexible, modular industrial lamp annunciators



and annunciator systems. In operation, units detect and indicate visually and audibly any abnormal condition or change in pressure, temperature, circuit breaker opening, liquid levels, and electrical circuits. Based on received information, they can start up or shut down any desired machinery, feed information to data-logging or control equipment, and reset themselves.

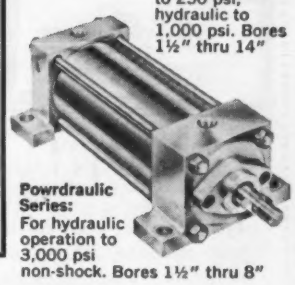
Operation can be changed from open to closed circuit by simply plugging in the specific circuit. Reinforced steel cabinets are available in flush panel mounted types with rear access terminals, flush wall mounted types with front terminals, and surface mounted types. Indicator sizes are 1 x 3, 1½ x 2, and 2 x 3 in. • **Edwards Co.**, Post Hill Road, Norwalk, Conn.

▲ For more details circle NED-638 E on enclosed inquiry slip ▲

NEW!...
HANNA-POWR CYLINDERS

FEATURES:
- Exclusive pressure-safe tube seals
- Fast change cartridge gland
- One piece steel heads with welded mountings
- Long lubricated bearings
- Meet J.I.C. standards
- Interchangeable dimensionally

Powrmation Series: For air operation to 250 psi, hydraulic to 1,000 psi. Bores 1½" thru 14"



Powrdraulic Series: For hydraulic operation to 3,000 psi non-shock. Bores 1½" thru 8"

Hanna-Powr Cylinders are available in a variety of mountings, bores and strokes. Engineered for strength and durability, they are precision-built to suit the toughest application requirements—yet their modest cost makes them a practical answer to common and unusual power-motion problems.

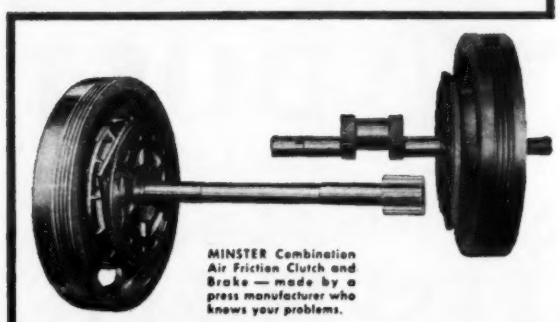
Write For New Catalog 1000 ——▶
– it gives details on Hanna-Powr Cylinders and Hanna-Flo Valves

Hanna Engineering Works
HYDRAULIC AND PNEUMATIC EQUIPMENT CYLINDERS VALVES
1759 Elston Avenue • Chicago 22, Illinois

▲ For more details circle NED-639 E on enclosed inquiry slip ▲

TO INCREASE PRESS EFFICIENCY

MINSTER® CLUTCHES FOR PRESS CONVERSIONS



MINSTER Combination Air Friction Clutch and Brake — made by a press manufacturer who knows your problems.

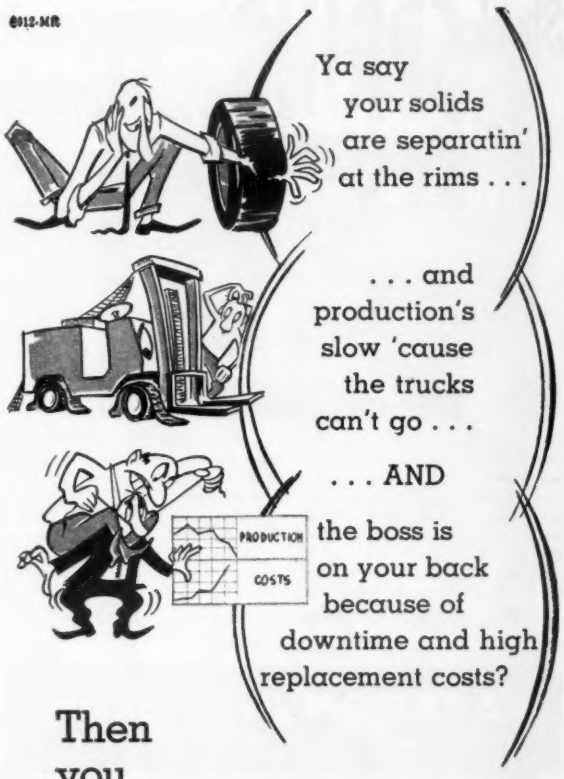
Here's why it is profitable to convert to Minster Clutches:
- Eliminates down time because of clutch failure
- Reduces maintenance by eliminating costly and frequent parts replacement
- Increases die life because of smooth, shock-free clutch engagement
- Reduces operator fatigue and improves safety because press is easier to operate, easier to control
- More productive cycles per hour on single cycle operation
- Easier, more rapid die setting

Bulletin CC 57 describes Minster Clutches for press conversion. Copy by request on company letterhead.

THE MINSTER MACHINE COMPANY
MINSTER, OHIO

▲ For more details circle NED-635 E on enclosed inquiry slip ▲

6912-MR



Ya say your solids are separatin' at the rims . . .

. . . and production's slow 'cause the trucks can't go . . .

. . . AND the boss is on your back because of downtime and high replacement costs?

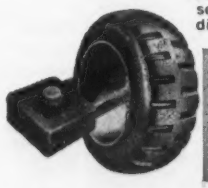
Then you need MONARCH SOLIDS made by the new MONOLOK* process!

Premature rim separation . . . the most universal failure experienced with industrial solid tires . . . frequently is caused by embedded metal scrap, chemicals or excessive heat. By destroying the rubber-to-metal bond, these factors cause severe tire damage and early failure.

NOW . . . after years of research . . . MONARCH has solved this costly problem! By combining a new bonding process with an improved natural rubber stock, *MONARCH has developed a solid tire with unprecedented resistance to rim separation.* That's why MONARCH tires give you longer trouble-free service and cut replacement costs.

*Monolok is Monarch's trade-name for a new chemical process that creates the most durable rubber-to-metal bond available to date.

FOR ADDITIONAL INFORMATION . . . see your Monarch dealer or write direct for BULLETIN MR-457.



THE MONARCH RUBBER COMPANY
260 LINCOLN PARK
HARTVILLE, OHIO

7-225 General Motors Bldg. Detroit, Mich. • 2353 No. California Ave. Chicago, Ill. • Western Warehouse: Reno, Nevada

▲ For more details circle NED-640 E on enclosed inquiry slip ▲

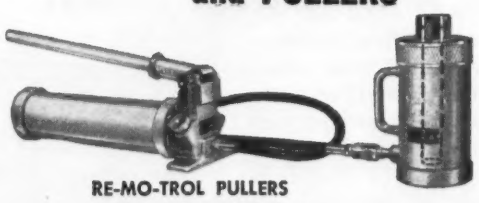
81 hydraulic models to choose from!
THE WORLD'S MOST COMPLETE LINE

SIMPLEX
HYDRAULIC JACKS and PULLERS

STANDARD HYDRAULIC JACKS
11 Models
1½ to 100 tons capacity
5¼" to 22" travel

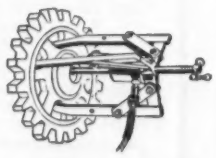
"JENNY" CENTER-HOLE HYDRAULIC PULLERS
6 Models
30 to 100 tons capacity
3¼" to 10" travel

ROL-TOE FOOT-LIFT HYDRAULIC JACKS
3 Models
10 to 50 tons capacity



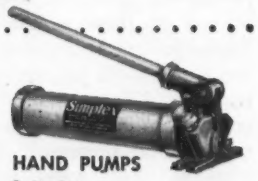
RE-MO-TROL PULLERS
Solid and Center-Hole Rams
39 Models
10 to 300 tons capacity

HYDRAULIC SERVICE and BUMPER JACKS
9 Models
1¼ to 20 tons capacity
13½" to 19" travel



HYDRAULIC PULLERS
4 Models
20 and 30 tons capacity
Push-Pullers, Double and Triple-Grip Pullers

POWERED PUMPS ELECTRIC, GAS OR AIR – 6 Models



HAND PUMPS
3 Models

Look for further information on Lever and Screw Jacks in other advertisements.

Write for Catalog: Hydraulic 60

TEMPLETON, KENLY & CO.
2565 Gardner Road
Broadview, Illinois

▲ For more details circle NED-636 E on enclosed inquiry slip ▲

FREE!

Get your free copy of "How to make your own machine and repair parts quicker and easier" . . . 24 pages. It tells the story of STRESSPROOF®, the all-purpose steel bar that *doesn't have to be heat treated*, yet is strong, machines faster, and wears better.

One stock of STRESSPROOF will take care of most of your needs. STRESSPROOF is available from your Steel Service Center.

La Salle STEEL COMPANY
1478 150th STREET • HAMMOND, INDIANA

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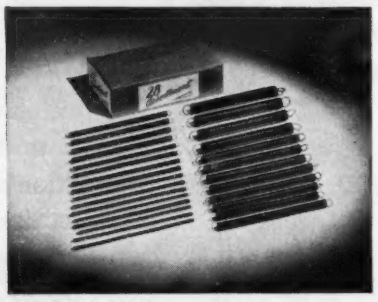
Stock SPRING assortments



Our #28 (extension) Spring Assortment folders are now available and yours for the asking. Our #31 (compression) Spring Assortment folders are also available. Ideal for tool rooms and maintenance work.

To overcome the faults of ordinary assortments, which seem to contain "every spring except the one needed", design efforts were not confined to the springs alone; rather, loadings and dimensions were analyzed to assure the user of greater probability in having the correct spring on hand, whatever the application.

Find Your Nearest Paragon Agent In The Yellow Pages

We also manufacture to special order.

Send samples or prints for quotation.

PARAGON SPRING COMPANY
4619 W. Fulton St. • Chicago 44, Ill.

▲ For more details circle NED-643 E on enclosed inquiry slip ▲

the penetrating force of...

COLD STEAM
CLEANS FASTER, BETTER, CHEAPER

Handle all kinds of cleaning jobs with the greatest of ease with HYDRO-AIR. This gun-type cleaner connects to standard air and hot or cold water supply. Compressed air "breaks" water into minute particles producing a dense penetrating force which blasts heavy dirt or quickly rinses metal sheets and small parts. Operates on 1 H.P. compressor and uses less than 3½ c.f. of air and 3½ gals. of water per minute. Easy to handle — weighs less than 2 lbs. Rubber sleeve protects user's hand when hot water is used.

$11.45

● *NEW . . . Siphoning attachment for application of cleaning solvents — under pressure — on parts, machinery or any difficult surfaces for cleaning.*

HYDRO-AIR PRESSURE WASHER

BLASTS STUBBORN DIRT! HARMLESS TO FINEST FINISH!

ORDER THROUGH YOUR SUPPLIER — or write direct. (Inquiries invited from industrial cleaning compounders interested in resale.)

D & M PRODUCTS, INC.
26 N. RAYMOND AVE. • PASADENA, CALIFORNIA

HYDRO-AIR is widely used throughout these industries:

Aviation	Construction	Transportation	Meat Packing
Automotive	Pharmaceutical	Railroads	Baking
Food Processing	Paper	Petroleum	Foundries
Brewing	Ship Building	Mining	Jewelry
Dairy Products	Textile	Metalworking	Leather

▲ For more details circle NED-644 E on enclosed inquiry slip ▲

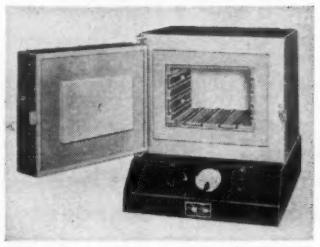
MASONRY DRILLS
12 and 18-in. lengths offered

Carbide-tipped Ti Twist masonry drills are now available in 12 and 18-in. lengths for extra deep and through drilling work. The steel drill bodies feature matched

combination of narrow lands, shallow oval flutes, and fast spiral for lifting dust out of hole as fast as it forms. The 12-in. drills are made in 11 sizes from ¼ to 1⅛ in., whereas 18-in. drills are made in 13 sizes from ¼ to 1½ in. ● **Holub Industries, Inc.**, 413 DeKalb Ave., Sycamore, Ill.

▲ For more details circle NED-645 E on enclosed inquiry slip ▲

ELECTRIC FURNACES
have infinite control up to 2300° F

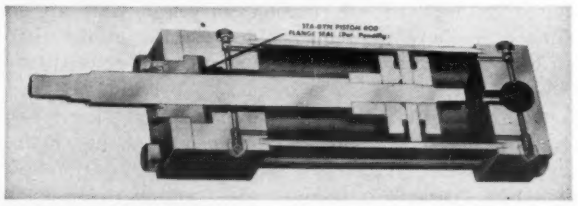


When the desired temperature level has been reached between 500 and 2300° F in Dyna-Trol industrial electric furnaces, it is maintained to a ±3° F dead zone or control band. Infinite zone control switches allow for accurate equalization of vertical zone temperatures at any time-temperature curve. Compensation for line voltage compensation is automatic. Each furnace has a temperature indicating pyrometer, two thermocouples, and a selector switch. For comparing vertical zone temperatures, a two-position thermocouple selector is provided. Illustrated front loading bench Model P 63 measures 20½ x 19 x 24 in. over-all. Larger and smaller bench models and compact floor models are also offered. All have preformed insulating brick interiors. ● **L & L Mfg. Co.**, 804 Mulberry St., Upland, Chester, Pa.

▲ For more details circle NED-646 E on enclosed inquiry slip ▲

AIR CYLINDERS
new rod seal speeds assembly

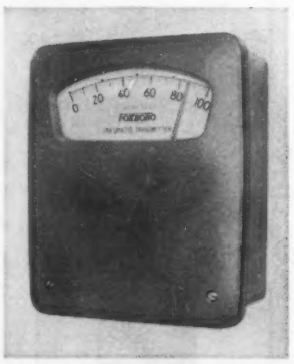
These air cylinders are now offered with the Sta-Dyn piston rod flange seal which combines the rod flange seal and the rod bushing sealing ring into a simple



one-piece unit. Design speeds up cylinder assembly and rod seal field replacement. Self-regulating, wear-compensating features of the dynamic flange rod seal are thus combined with the static rod bushing seal, forming a single static-dynamic seal that seals with pressure. Pressure balancing ring protects seal against blow-out. ● **Flick-Reedy Corp.**, Miller Fluid Power Div., York & Thorndale Roads, Bensenville, Ill.

▲ For more details circle NED-647 E on enclosed inquiry slip ▲

INDICATING TRANSMITTER
for several process variables

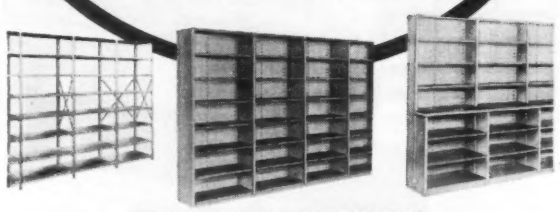


Pressure, flow, temperature, liquid level, differential pressure, and dew point are typical process variables that can be measured by Model 35 series of pneumatic indicating transmitters. Measuring elements are offered in these ranges: Pressure, 0 to 10 in. water, 0 to 80,000 psi; temperature, 450 to 1000° F or −270 to 5000° F; flow (differential pressure), 0-1 to 0-400 in. water; liquid level, 0-10 in. water minimum in open vessels and 0-20 in. water minimum in closed vessels; and dew point, −50 to 165° F. Output signal is 3 to 15 psi, with 3 to 27 psi optional. Calibrated accuracy is within ±½ per cent. Easily maintained instrument has a 6⅛-in. scale, a fluorescent pointer, and a weatherproof steel case measuring 9¼ x 11⅜ x 5 in. ● **Foxboro Co.**, 26 Neponset Ave., Foxboro, Mass.

▲ For more details circle NED-648 E on enclosed inquiry slip ▲

NEW FROM PENCO

40-PAGE SHELVING CATALOG



HELPS YOU PLAN BETTER SHELVING
HELPS YOU BUY BETTER SHELVING

Lists over 1000 shelving combinations . . . Bolt Type and Clip Type. Gives STYLES . . . SIZES . . . PARTS . . . PLANNING AIDS.

Write for your copy direct to:

ALAN WOOD STEEL COMPANY
PENCO DIVISION
406-S North Brower Avenue, Oaks, Pennsylvania

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new...
lightweight
low-cost
DUST PROTECTION

Pulmosan
RESPIR-ETTE (Trade Mark)
The "ounce of prevention" against nuisance dusts and paint overspray

The Respir-ette mask weighs less than one ounce, provides protection at minimum cost. One-size plastic body fits all faces comfortably and does not interfere with the wearing of spectacles. It's washable and non-irritating. New throw-away filters are easily replaceable, inexpensive and efficient. Respir-ette . . . an inexpensive mask to protect against nuisance dust and paint overspray.

Write for details.

PULMOSAN STOPS Accidents
Pulmosan SAFETY EQUIPMENT CORP.
644 Pacific Street, Brooklyn 17, N. Y. Sterling 9-0200
1007 Washington Ave., St. Louis, Mo. Chestnut 1-9393

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NEW POLYPENCO® MC Nylon

Economical new bearing material cuts standard nylon costs up to 50%

Polymer's new MC Nylon opens new design opportunities to manufacturers and users of large bronze and babbit bearings. The specially formulated bearing compound is available in tubular bars at prices below those of quality bronze bushings. Polymer's new MC Nylon has improved wear characteristics and greater resistance to deformation under load . . . proven by field tests.

STOCK SIZES

MC Nylon tubular bars are available in outside diameters ranging from 2" to 15". Wall thicknesses of ⅜", ½", ¾" and 1" are standard with wall thicknesses up to 2" made to order. Standard lengths up to 13". Supplied in POLYPENCO blue.

MORE TO COME

Other symmetrical shapes —produced with new economy—and in larger sizes than now available—can be obtained on request.

Call or write today for full information.

See MC Nylon in Polymer Booth #1513
Design Engineering Show
May 23-26
Coliseum, New York City

THE POLYMER CORPORATION OF PENNA. Reading, Pa.

POLYPENCO

▲ For more details circle NED-651 E on enclosed inquiry slip ▲

CHEM-WEAR® Permanently FLAMEPROOFED Work Clothes Protect from Fire Hazards

CHEM-WEAR Flameproofed work clothes protect workers from the hazards of welding, test cell work, light metal splashes.

Look to CHEM-WEAR, your best source for all types of acid-resistant clothes and a complete line of cotton work clothes.

Special Work Clothes for Handling Liquid Oxygen

Write for Catalog

Available from Your Safety Dealer or Write to

M. SETLOW & SON, Inc.
Quality Since 1896
131 CHESTNUT ST., NEW HAVEN, CONN.

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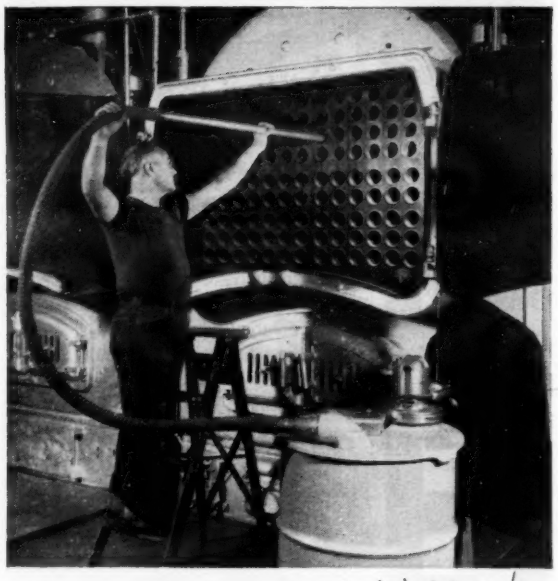
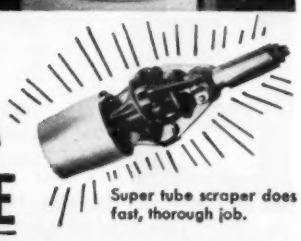




Super tube scraper does fast, thorough job.

THERE'S A GOLD MINE IN YOUR BOILER ROOM!

● Have you overlooked the cost cutting potential in your boiler room?

SAVE—9.5% to 75% of your fuel bill with Super boiler tube cleaning equipment.

CLEAN—No soot scattered in boiler room, pushed into firebox or blown on operator.

QUICK—All soot pulled into steel drum or container for once-and-all disposal.

EASY—Makes a laborious, dirty job that is usually put off a simple, clean operation quickly done.

You also have a real heavy duty wet and dry pick-up Super Suction Cleaner for general use in the whole plant, and in many production operations where blowing or suction is required for removing dust, chips or recovering or transferring liquids.

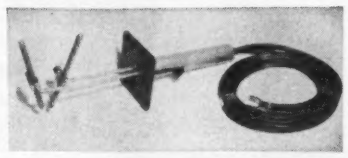
Get all the facts. Write for Super brochure on boiler cleaning. See your local Super distributor.

THE NATIONAL SUPER SERVICE COMPANY
1958 N. 12TH STREET, TOLEDO 2, OHIO
In Canada: Plant Maintenance Equipment Co. Toronto, Montreal, Vancouver
SALES AND SERVICE IN PRINCIPAL CITIES

"Once Over Does It"
SUPER SUCTION SERVICE®
Power Suction Cleaners • Quality Floor Machines
SINCE 1911
"THE DRAFT HORSE OF POWER CLEANING MACHINES"

▲ For more details circle NED-653 E on enclosed inquiry slip ▲

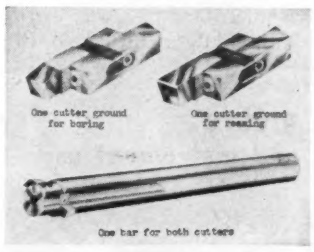
ELECTRIC WELDING TORCH KIT
usable with any welding machine



Welding as well as production brazing, soldering, and heating jobs are readily performed with this Model B-3 twin electrode welding torch kit. It is usable with any alternating current welding machine. Two cored carbon electrodes are easily maintained at a proper distance for maintenance or production work. ● **Arcair Co.**, Box 431, Lancaster, Ohio.

▲ For more details circle NED-654 E on enclosed inquiry slip ▲

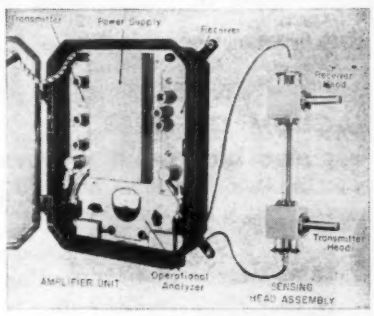
BORING & REAMING KIT
for holes 5/8 to 1 in. in diameter



One bar and two adjustable cutters comprise the Short Run tool kit for limited boring and reaming operations. One cutter is ground for boring and can be replaced by the second cutter, ground for reaming, without disturbing the bar setup. Cutters are adjustable for machining 5/8 to 1-in. diameter holes. For holes 1 in. and larger, a heavy-duty slot bar and two cutters can be provided. ● **Muskegon Tool Industries, Inc.**, 11th & Western Streets, Muskegon, Mich.

▲ For more details circle NED-655 E on enclosed inquiry slip ▲

BUBBLE DETECTOR
used with static or flowing liquids



Undesirable or controlled bubbling in almost any liquid in open or closed vessels, pipes, or flumes is detected by the ultrasonic bubble detector. It can be coupled with any type of indicating, recording, or controlling instrumentation, or used with an alarm. Individual bubbles are detected as readily as large quantities, and the strength of the output signal varies with both the size and number of bubbles. The sensing head assembly located at the process is cable-connected in a continuous loop with the amplifier, which may be remotely located. Presence of bubbles weakens or interrupts a pulsed ultrasonic signal passing through the liquid. Minimum detectable bubble diameter is 0.001 in. and maximum temperatures at head and amplifier assemblies are 180 and 135° F, respectively. Fluid viscosity range is 1 to 30,000 centipoise. ● **Taylor Instrument Co.**, 95 Ames St., Rochester 1, N. Y.

▲ For more details circle NED-656 E on enclosed inquiry slip ▲

DIAL FEED WELDER
for mass welding of small parts

High speed assembly of small electrical components is a typical application for the dual head AVB-3 dial feed bench welding machine. Illustrated machine welds 1500 to 1700 electrical outlet parts per hour. It includes a six-station Geneva dial feed mechanism, three vibratory hopper feed units, and an automatic ejector mechanism, and makes two simultaneous projection welds. Basic dual head welder can be equipped with tooling for wide forming, assembling, and fastening operations. Illustrated model has 30-kva transformer; other standard models have 10 to 50-kva ratings. ● **Precision Welder & Flexopress Corp.**, 3520 Ibsen Ave., Cincinnati 9, Ohio.

▲ For more details circle NED-657 E on enclosed inquiry slip ▲

Seiberling INDUSTRIAL GLOVES

Longer wear in every pair! Available in various sizes, gauges, lengths, colors and surface finishes. Natural rubber or genuine Dupont neoprene latex. Contoured fingers for more comfort, better fit.

EXCLUSIVE PATENTED FIRMGRIP® SAFETY GRIP MOULDED INTO FINGERS AND PALM

SEND FOR CATALOG NO. G-2 of complete glove line

FREE TEST OFFER! Write us on your firm's letterhead for sample gloves for test purposes.

SEIBERLING LATEX PRODUCTS
New Bremen, Ohio

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Now, a NEW Concept in
H.D. VACUUM CLEANERS
only from Black & Decker, of course

From whisper-quiet, easy-to-carry cleaning power to extra heavy-duty, super capacity wet and dry pick-up . . . you'll find exactly the vacuum you need in the Black & Decker line. Six models to choose from. Illustrated: NEW high-styled, slim-line, lightweight No. 25—ideal for warehouse bins, offices. Check below for further information.

See Tools Electric Yellow Pages for Service & Sales

Leading Distributors Everywhere Sell

50th YEAR Black & Decker
Quality Electric Tools

▲ For more details circle NED-659 E on enclosed inquiry slip ▲

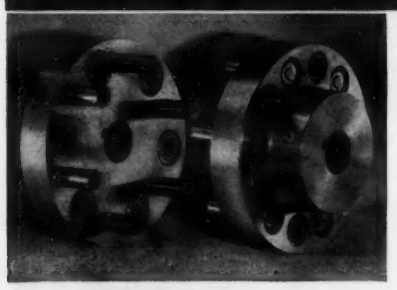
AIR GAGE READINGS RECORDED AUTOMATICALLY

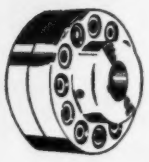
New Sheffield pneumatic gage recorder automatically records size variations during *continuous* or repetitive air gaging. Gives your customers part size certification. Eliminates talley sheets and other less efficient practices. Records deviations from specified part size on 4" wide chart. Full scale range is from ±0.0003" to ±0.04" with back pressure type tooling. Chart travel is continuous or indexing. Chart calibrations are uniformly spaced with 5, 10, 15 or 30 divisions each side of center zero. Controls are virtually tamper-proof. Write Dept. 13 for Bulletin PGR.

The **SHEFFIELD** *Corporation • Dayton 1, Ohio*
A subsidiary of The Bendix Corporation

▲ For more details circle **NED-664 E** on enclosed inquiry slip ▲

HOW AJAX FLEXIBLE COUPLINGS Cure Your Breakdowns





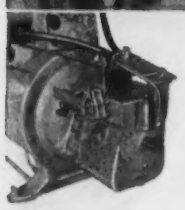
Usually you don't detect misalignment strains until something lets go. Prevent damage to bearings, gears and housings of pumps, compressors, hoists and other equipment by installing AJAX Flexible Couplings.
Made in Dihedral Gear and rubber-cushioned, bronze-bearing types.

Write for catalog 6a-AJ.

AJAX FLEXIBLE COUPLING CO. INC.
142 Portage Road, Westfield, N. Y.
In Canada—The Alexander Fleck Limited, Ottawa

▲ For more details circle **NED-665 E** on enclosed inquiry slip ▲

FUNK LICKED THIS 3-WAY PROBLEM



On this Massey-Ferguson Work Bull Multi-Purpose Loader, a FUNK Revers-O-Matic Drive permits triple operation with two foot pedals. Speed and direction are changed instantly and smoothly, hands are left free for other operations and neutral speed control is provided.

The FUNK torque converter automatically adjusts power between speed and load requirements.

It makes good sense to look for FUNK Modular Power Units on the equipment you buy.

FUNK MFG. CO. Box 577-C Coffeyville, Kansas

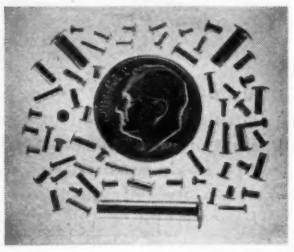
▲ For more details circle **NED-666 E** on enclosed inquiry slip ▲

ELECTRIC DUPLICATOR delivers 120 copies per minute

Model D-21 electric duplicator can deliver 120 clean-cut copies per minute of anything typed, written, drawn, or traced. It will produce 300 to 500 copies in one to five colors from a single duplicating master on any weight paper from 16 lb to card stock. Paper size ranges from 3 x 5 to 9 x 14 in. The Sure-Feed system has a new feed pressure lever, paper separators, side guides, and a lift lever for fast paper insertion. Cabinet-stand is an extra. • **Ditto, Inc.**, 6800 N. McCormick Rd., Chicago 45, Ill.

▲ For more details circle **NED-667 E** on enclosed inquiry slip ▲

MICROMINIATURE RIVETS for electronic and instrument use



Smaller than sizes heretofore commercially available, these microminiature rivets are especially suited for subminiature electronic and instrument needs. Modified brazier heads have low contour. Design combines advantages of solid and tubular types with a rigid upper portion and deep drilled shank. They are made of brass with a burnished gold plated finish. Lengths of 1/16 to 5/8 in. have body diameters of 0.03 to 0.125 in. • **Circon Component Corp.**, Santa Barbara Municipal Airport, Goleta, Calif.

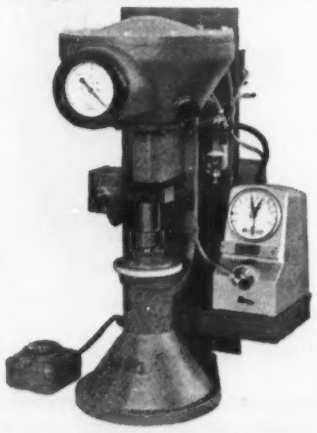
▲ For more details circle **NED-668 E** on enclosed inquiry slip ▲

VACUUM CLEANER also blows out motors, equipment

Clean filtered air for blowing out motors, generators, and electronic equipment, and also for use in painting, is provided by the Model 75 Vac-Master industrial vacuum cleaner. It has a 20-gal galvanized steel container with cast aluminum cover, four rubber-tired ball bearing swivel casters, and includes cord, switch, hose, three-piece wand, five cleaning tools, and blower attachment. Cleaner is powered by a 7/8-hp sealed ball bearing 115-v ac-dc motor. Extra wands are available for long overhead reaches. Price is $137.50. • **Cincinnati Fan & Ventilator Co.**, 3564 Montgomery Rd., Cincinnati 7, Ohio.

▲ For more details circle **NED-669 E** on enclosed inquiry slip ▲

HARDNESS TESTER has direct reading Brinell gage

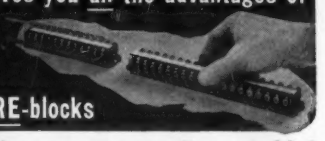


Gage at the top of the Air-O-Brinell metal hardness tester shows the exact pressure in kilograms of Brinell load that will be applied before the test is made. Once the load is set, repeated tests can be made in rapid sequence. As the ball penetrates the specimen, its depth is determined and the Brinell hardness number is indicated directly on a separate gage. Machine operates on 1.2 cu ft of air per minute at above 65 psi. It is graduated for standard loads of 500, 1000, 1500, 2000, and 3000 kilograms. Hardness range is determined by customer requirements; illustrated model has a 170 to 415 range. Vertical clearances of 9 and 16 in. are offered. • **Tinius Olsen Testing Machine Co.**, 926 Easton Rd., Willow Grove, Pa.

▲ For more details circle **NED-670 E** on enclosed inquiry slip ▲

No other terminal block—sectional or one-piece—gives you all the advantages of

BUCHANAN



MD Sectional pres-SURE-blocks

NO WASTE CIRCUITS—Save money, space. Pre-assembled lengths of 20 snap-fit sections.
LESS INVENTORY—Only 2 different parts—contact and end sections.
MORE CIRCUITS IN AVAILABLE SPACE—Group common wires (equal to 1 #22 thru 1 #8) in tubular contacts on 7/16" centers. Less jumpering. 10 circuits 4-7/16", plus 21/32" for each complete block.
NO TERMINALS OR LUGS—Tubular contacts provide secure, efficient connections.
NO BLIND MARKING—Unobscured top marking area. Integral or separable strips.
QUICKER TO INSTALL AND CHANGE—Hand assembled. Mount only every 12 sections. Pull off or add circuit groups.
LOW INSTALLED COSTS—Competitive with conventional blocks of similar rating.

Separate Sections or Factory-Assembled Blocks
Flat Base or Channel Mounting • Tubular or Strap-Screw Contacts
Fanning Strips • Conservative 750-volt A.I.E.E. rating

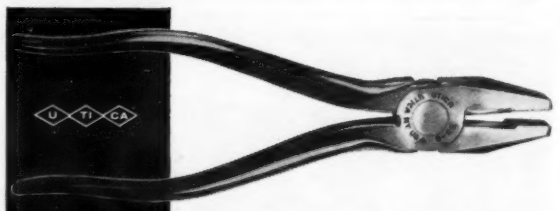
Tubular contacts fully approved by U.L. Blocks fully approved for 600 V by C.S.A.

BUCHANAN ELECTRICAL PRODUCTS CORPORATION HILLSIDE, NEW JERSEY

Write for Bulletin J-5

Booth 2220
Design Engineering Show
New York—May 23-26

▲ For more details circle **NED-671 E** on enclosed inquiry slip ▲



UTICA

Our specialty is pliers! Keeping pace with the changing demands of industry, Utica produces and stocks over 1,000 different types of pliers—fine precision tools for every conceivable use. Because of the job we have been able to do in many of the country's largest and most specialized plants, we believe that Utica tools can help you, too—either reduce your costs or improve your products. Contact your Utica distributor, today.

Utica Drop Forge & Tool Division, Kelsey-Hayes Company, Utica 4, N. Y.

tools the experts use!

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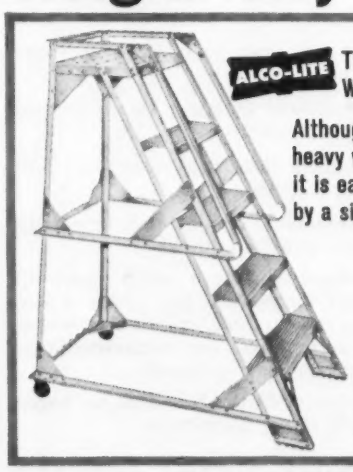
Weighs only 35 lbs.



ALCO-LITE Type 600 Warehouse Ladder

Although made for heavy warehouse duty—it is easily handled by a single person.

Folding model available.

5 ft. high. Made of high tensile strength aluminum alloy. Extra bracing and riveting. Roomy, non-slip type steps and platform. Hand and platform rails. Rubber front feet and rubber tire casters. Surpasses ASA and MLA standards.

Aluminum Ladder Company
West Darlington Street Ext.
FLORENCE 4 S. CAROLINA

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Just Out! Just the ticket to cut cost!

NEW SPEED CONTROL VALVE

1/8" and 1/4" pipe sizes in stock now!

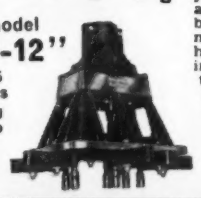
Now a speed control valve that regulates your cylinder movement with precision and sureness, but which lists at $3.00 and $3.25. And despite its lower costs, "CUB" features the same high quality of design and workmanship you've come to expect from Ross. "CUB'S" design stresses trouble-free operation and easy maintenance. CUB is small, aluminum and lightweight. If you use speed controls, by all means call your Ross representative or write us.

ROSS OPERATING VALVE CO.

161 E. Golden Gate Ave. • Detroit 3, Michigan

▲ For more details circle NED-674 E on enclosed inquiry slip ▲

For LOW COST Hole Production Pick a MULTI-DRILL® to Fit the Job

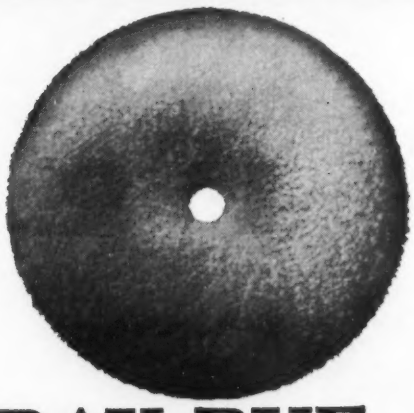


Commander MULTI-DRILLS—adjustable multiple spindle drill press attachments—are sold and serviced by a nation-wide network of Commander Distributors—experienced, helpful specialists in solving drilling and tapping problems. Write for the name of your nearest Distributor and the complete Commander Production Tool Catalog which contains full details on every MULTI-DRILL and many other production drilling and tapping tools.

Commander MFG. CO.

4220 W. Kinzie Street • Chicago 24, Illinois

▲ For more details circle NED-675 E on enclosed inquiry slip ▲



RAY-BUF...

new all-purpose polishing pad

Polishes faster—Ray-Buf's deep soft pile of 100% virgin wool gives higher luster faster.

Polishes evenly—New design puts tufts in controlled concentric circles, perfectly balanced, to give even polish.

Selected first-quality yarns—Stay fresh and resilient through repeated applications. Give high-quality results.

Washable—Tufts are firmly anchored to tough canvas backing. Won't pull out even after repeated washings.

Write for Ray-Buf bulletin, prices, quantities.

Schlegel MANUFACTURING COMPANY

P. O. Box 197, Rochester 1, N. Y. In Canada: Oakville, Ontario

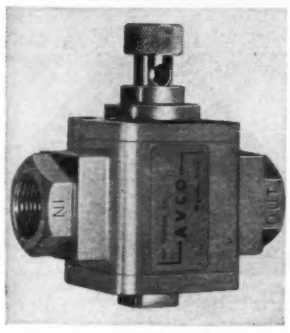
▲ For more details circle NED-676 E on enclosed inquiry slip ▲

FORK LIFT TRUCK has 2000-lb capacity

Stand-up end control Model ET-68 Mobilift fork lift truck uses a Mobil-Matic drive to smoothly transmit power in forward or reverse direction without gear shifting. Drive also operates the roller chain lift mechanism. When the operator steps off his platform, the truck brakes are applied. The truck turns end-for-end without stopping with 360-degree steering and zero inside turning radius. It is powered by a three-cylinder air-cooled 15-hp engine. The 2000-lb capacity truck has a mast that elevates from 68 to 109 in. Length is 64½ in. and width is 33 in. Travel speed is 6 mph. • **Mobilift Co.**, Hopkins, Minn.

▲ For more details circle NED-677 E on enclosed inquiry slip ▲

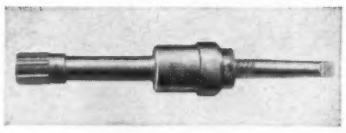
SAFETY BLEED VALVE for air or hydraulic supply line



Instant, snap-action shut-off of this low cost safety bleed valve for air or hydraulic supply lines prevents harm to equipment or personnel. The compact Loc-Master valve has an aluminum alloy body and permits unrestricted flow in the line. Quarter-turn of thumb nut completely stops all line pressure and automatically bleeds off pressure on down-stream side. Closing of valve prevents accidental recharging of supply line. Valve stem can be padlocked in closed position. Valve is presently available for ⅜, ½, and ¾-in. air or hydraulic lines for 0 to 150 psi service. • **Air Valves Co.**, 24581 Groesbeck Highway, Warren, Mich.

▲ For more details circle NED-678 E on enclosed inquiry slip ▲

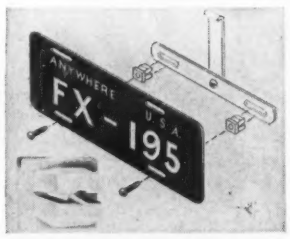
ROLLER-BURNISHING TOOL finishes holes to 4-15 mu in.



Bored holes in any machinable metal can be finished to 4-15 mu in. surface smoothness in seconds with this adjustable roller-burnishing tool which can be mounted on drill press, lathe, or screw machine. Self-feeding tool is used for all metals not over 35 Rockwell C hardness. Hardened rolls do not remove any metal, but smooth out the machined peak-and-valley pattern by pressure, increasing the inside diameter 0.0005 to 0.0015 in. Tools are available in 1/64-in. increments in sizes from 0.375 to 0.484 in. and in 1/32 in. increments in 0.500 to 7.437 in. sizes. Tools for through hole and blind end burnishing and for various bore depths are available. • **Gustav Wiedeke Co.**, 1833 Richard St., Dayton 1, Ohio.

▲ For more details circle NED-679 E on enclosed inquiry slip ▲

SNAP-IN NYLON NUTS act as blind screw receptacles



Improved Plasti-Grommets are self-retaining blind screw receptacles. They have high holding strength, good load carrying capacity, and resist vibration loosening. Easily snapped in square holes or slots in panels, sheet metal, and other assemblies, they lock screw tight. Added advantages include electrical insulation at fastening point, freedom from corrosion, compensation for misalignment, and torque type locking action. They act as spacers or cushions where needed. Square and round top Plasti-Grommets are made in 11 new standard sizes for No. 6 to ¼-in. screws and in 100 nonstandard sizes and types for No. 4 to 5/16-in. screws to fit panel thicknesses from 0.031 to 0.109 in. • **Illinois Tool Works**, Fastex Div., 195 Algonquin Rd., Des Plaines, Ill.

▲ For more details circle NED-680 E on enclosed inquiry slip ▲

871B

All These New Improvements—

NEW • Lower breaking and running torque

NEW • Non-settling, non-hardening, homogenized composition

NEW • Can be used in below freezing weather

NEW • Increased lubricating and sealing qualities

NEW • Prevents rust and corrosion

Now in tubes and cans

FREE TEST SAMPLE PROVES HOW!

You'll save countless man hours and avoid costly replacement of broken studs, bolts, etc., with the protective cushioning action provided by the colloidal copper composition of C5-A. Improved C5-A Lubricates and Seals for fast, easy application and removal. Gives same protective performance even after high-pressure, high-temperature use, up to 1800° F. Can be used on all metals and plastics.

FELT PRODUCTS MFG. CO.

Dept. 68, 7450 N. McCormick Blvd., Skokie, Illinois

✓ Ends seizing and galling even up to 1800° F.
✓ Reduces wrench torque
✓ Stops needless stud breakage
✓ Permits repeated re-use
✓ Speeds assembly and disassembly
✓ Prevents galling of stainless steel

TRY C5-A NOW...

Manufacturers, refiners, and power producers find C5-A ideal for boilers, face plate studs, etc. Write for your free test sample today!

▲ For more details circle NED-681 E on enclosed inquiry slip ▲

GPE Controls

WEB and STRIP GUIDES

Save TIME...MONEY...MATERIAL!

Send for NEW Catalog EG-84

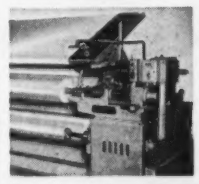
Photos and diagrams representing thousands of installations; complete details on world's broadest line of web and strip guides.

- Laminate without trim!
- Speed up presses while you keep accurate side register!
- Slit without side trim!
- High-speed textile tentering with minimum selvage.
- Track conveyor belts, abrasive belts, etc., up to 5,000 feet per minute.
- Winds 100-ton steel coils evenly to protect edges.
- Web edge position, porosity, opacity, or reflectance sensed by air or photoelectric heads.
- Non-clog air sensing head (patented) never touches web, works perfectly with linty, dusty, or abrasive webs.
- Hydraulic actuation for unlimited power and speed, high frequency response.
- Engineered by specialists in industrial automatic controls.

43 MODELS ...one just right for your job!

Medium-duty model with air sensing, positioning knives on rubber calender.

Photoelectric reflected light head following line on printed carton stock to eliminate slitting.



Light-duty unit with air sensing, applied to textile machinery.

GPE Controls, Inc.

258 E. Ontario St., Chicago 11, Ill.

GPE Controls — A GENERAL PRECISION COMPANY — formerly Askania Regulator Company

A subsidiary of General Precision Equipment Corporation

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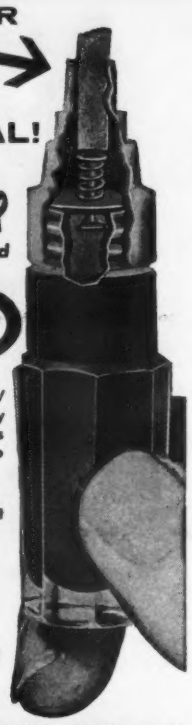
FREE SAMPLE OFFER

MARK METAL OR ANY MATERIAL!
with the All New...
FLASHDRY INK MARKER
never dries up when left uncapped

*exclusive Wet-Wick, Valve Action**



*It's a brand-new concept . . . it's the ALL-NEW FLASHDRY INK MARKER that's always ready for use. Just push down and Presto! The ink is flowing again . . . no matter how long the cap has been off!

- Writes on any surface, including metal
- Contains more ink than other markers at higher prices!
- 8 brilliant colors
- Guaranteed 2-miles of writing
- Can't evaporate, completely leakproof
- 2 Miles of Marking
- Replaceable tips and inks mean greater economy

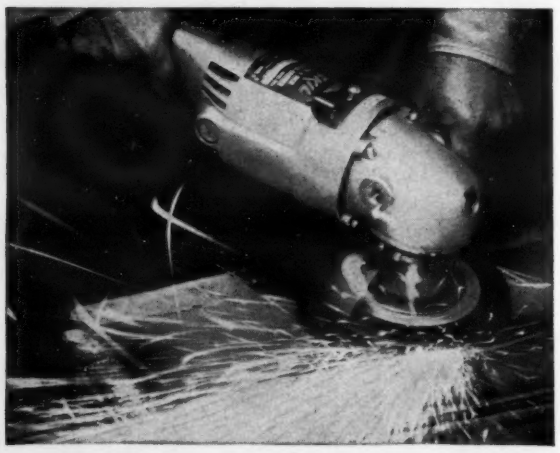
only **69c**

Available at all leading Dealers.

FOR FREE SAMPLE write:

FLASH MANUFACTURING COMPANY
169 MURRAY STREET, NEWARK 5, N. J.

▲ For more details circle **NED-683 E** on enclosed inquiry slip ▲



SKIL...most powerful of 5 leading SANDER-GRINDERS

...COMPARISON PROVES IT!

9" Models	SKIL #852	Brand A	Brand B	Brand C	Brand D
Amp. Rating	12	10	8	11.5	10
Max. H.P.	2.48	2.2	1.3	1.70	1.92
Net Wt.	12¾	12¼	14	12¾	15¾
7" Models	**SKIL #853**	**Brand A**	**Brand B**	**Brand C**	**Brand D**
Amp. Rating	12	10	8	8.5	9
Max. H.P.	2.48	2.2	1.4	1.69	1.03
Net Wt.	12¾	12¼	14	12¾	13¼

SKIL Sander-Grinders are low on maintenance, too! Straight flow ventilation keeps interiors free of harmful metal dust and abrasives, a chief cause of disc sander failure. Dust proof switch, beefed-up gears and bearings keep them on the job, out of the shop. Ask your SKIL distributor for a demonstration and Free copy of 58-page SKIL catalog. Or mail coupon.

SKIL *AND SKILSAW POWER TOOLS*

FREE! 58-PAGE SKIL INDUSTRIAL TOOL CATALOG

SKIL Corporation, Dept. 119 E
5033 Elston Avenue
Chicago 30, Illinois

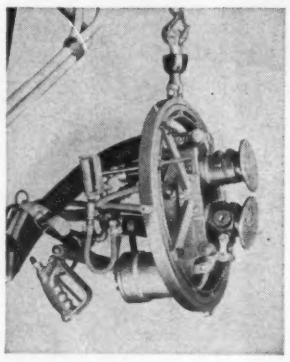
In Canada:
3601 Dundas St., West
Toronto 9, Ontario

☐ Please send name of nearest distributor.
☐ Please send Free SKIL Power Tool Catalog with detailed information on over 100 SKIL Industrial Tools.

Name _____ *Title* _____
Address _____
City _____ *Zone* _____ *State* _____

▲ For more details circle **NED-684 E** on enclosed inquiry slip ▲

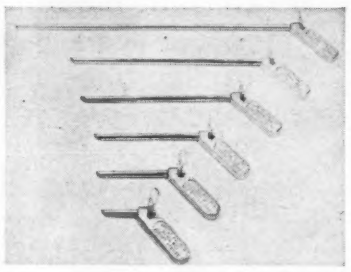
ROLL SPOT WELDER
welds three thicknesses of metal



Production speeds up to 250 ipm are attained with this portable roll spot welder which offers clamping pressures up to 1000 psi. It is designed to weld three thicknesses of 0.032-in. metal. Compact, lightweight unit is suited for use on cumbersome jobs. Its automatic spot spacing is adjustable between ½ and 1½ in. The synchronized, double wheel, air motor drive and contact rollers are available in various diameters. They turn on current-carrying needle bearings to withstand high clamping pressure. • **Progressive Welder & Machine Co.**, 915 Oakland Ave., Pontiac, Mich.

▲ For more details circle **NED-685 E** on enclosed inquiry slip ▲

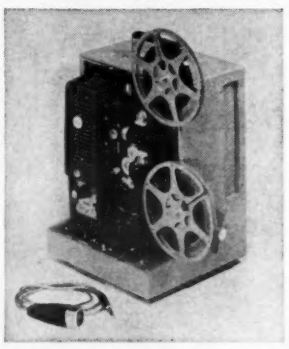
LONG NOSE WIRE CUTTER
in 2 to 18-in. lengths



With a Little Snipper long nose wire cutter, user can reach into complex wiring arrangements to cut wires ranging from the finest to ⅛-in. thick. Available in six models from 2 to 18 in. long, cutters use a radial cutting action. Cutting jaws at front end of the barrel are operated by simple lever on the pistol grip. Jaws are so easily controlled that they may be used as pincers to hold work for soldering or brazing. Lengths to 5 ft can be made. Prices start at $3.95. • **E. V. Nielsen Inc.**, 575 Hope St., Stamford, Conn.

▲ For more details circle **NED-686 E** on enclosed inquiry slip ▲

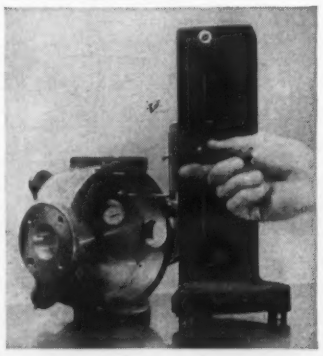
8-MM SOUND PROJECTOR
has magnetic recording system



Complete system for recording and playing back magnetic sound on both old and new 8-mm film is incorporated in this 8-mm Kodak Sound 8 movie projector. It will allow production of inexpensive 8-mm film packages, complete with commentary, music, or other sound effects. Projector features sound-drive system with split-second sound stabilization, a long-life Alfenol metal magnetic head, and a nonaxial 500-w projection lamp which assures ample light for 5-ft wide screen. Operator can erase, re-record, or play back sound at will, and he can project either at 16 or 24 frames per second. Power rewind of 400-ft reel takes less than 1 min. List price is $345. • **Eastman Kodak Co.**, 343 State St., Rochester 4, N. Y.

▲ For more details circle **NED-687 E** on enclosed inquiry slip ▲

SQUARENESS GAGE
also indicates straightness

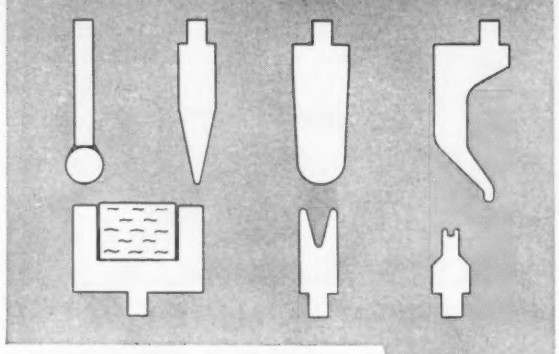


This Indi-Square gage will indicate squareness and straightness in cavities, slots, and recesses as close as ±0.0001 in. in 8 in. It can be used in any position around the work. Gage is first positioned to a precision angle plate or cylindrical square and adjusted. Two adjustable eccentrics, 90 degrees to each other, permit precise adjustment of master bar for squareness from front to back and side to side. Gage can be used on a surface plate, machine table, or the part itself. Indicators graduated to 0.0001, 0.0005, and 0.001 in. are available. • **Indi-Square Co.**, 1119 E. Ridge Rd., Rochester 21, N. Y.

▲ For more details circle **NED-688 E** on enclosed inquiry slip ▲

Alloy Forming for
AIRCRAFT
MISSILES
ROCKETS
and
OTHER FABRICATIONS

CHICAGO ALLOY-FORM DIES
For All Makes of Press Brakes



Here are a few of the commonly used types of CHICAGO Alloy-Form dies available for prompt delivery. For further data ask for Bulletin AFD-958. Complete recommendations and quotations on Alloy-Form dies or any special die upon request.

DREIS & KRUMP MANUFACTURING CO.
7436 S. Loomis Blvd., Chicago 36, Ill.

8741

Press Brakes • Press Brake Dies • Straight-Side-Type Presses
Hand and Power Bending Brakes • Special Metal-Forming Machines

▲ For more details circle **NED-689 E** on enclosed inquiry slip ▲

INSULATION LASTS LONGER, WORKS BETTER WITH FLINTKOTE INSULATION PROTECTIVE COATINGS!

For outdoors against weather or indoors against vapor or moisture, use these specially designed thermal insulation coating products.

- Flintkote C-13-A—an asphalt base clay emulsion for a breathing type of coating.
- Thermalkote*—weather resistant asphalt mastic for heavy duty over wire-held insulation.
- Flintkote C-19—a non-breathing, vapor sealing cutback asphalt coating.
- White Insulation Coating—for interior refrigerations.

For full particulars including light reflective finishes for asphalt coatings write: The Flintkote Company, Industrial Division, 30 Rockefeller Plaza, New York 20, New York.

*Reg. U.S. Pat. Off.

FLINTKOTE

Manufacturer of America's Broadest Line of Building Products

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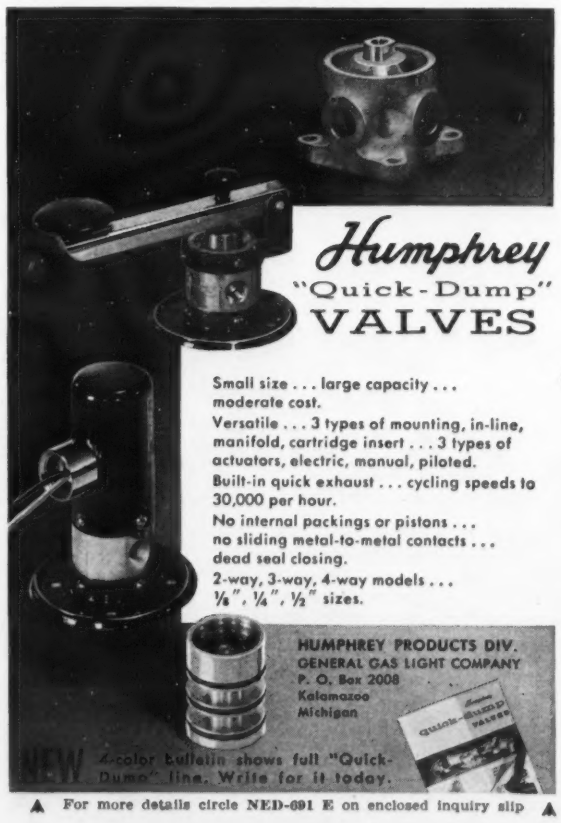

Humphrey
"Quick-Dump"
VALVES

Small size . . . large capacity . . . moderate cost.
Versatile . . . 3 types of mounting, in-line, manifold, cartridge insert . . . 3 types of actuators, electric, manual, piloted.
Built-in quick exhaust . . . cycling speeds to 30,000 per hour.
No internal packings or pistons . . . no sliding metal-to-metal contacts . . . dead seal closing.
2-way, 3-way, 4-way models . . . ⅛", ¼", ½" sizes.

HUMPHREY PRODUCTS DIV.
GENERAL GAS LIGHT COMPANY
P. O. Box 2008
Kalamazoo
Michigan

NEW 4-color bulletin shows full "Quick-Dump" line. Write for it today.

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Series 61 shown

Now Buckeye offers two new series of compact, air-powered routers which can make deeper, heavier, faster cuts than larger electrical routers of greater horsepower! Straight or intricate contour cuts can be made with speed and precision in most non-ferrous metals, wood, plastic, honeycomb. Both series feature dependable Buckeye air motor . . . lightweight, easily maneuvered base . . . positive-locking depth-of-cut adjustment. Available as portable units complete with base, or power unit only for permanent fixture mounting.

SPECIFICATIONS	CAPACITY: COLLET	SPEED RPM	WEIGHT (with base)	HEIGHT (with base)
SERIES 31	1/8" to 1/4"	20,000	4¾ lbs.	7"
Series 31, Aircraft model	1/8" to 1/4"	20,000	3 lbs.	7⅛"
SERIES 61	1/4" to 1/2"	6,000-15,000	12 lbs.	10"

Write today for informative literature and prices!

Pioneering Power Tools for Industry Since 1920

Buckeye Tools CORPORATION

P.O. BOX 966, DAYTON 1, OHIO

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How to cut maintenance cleaning and painting cost easily in half

Here's a new method to cut costs of maintenance cleaning and painting . . . *while doing it easier and faster!*

Amazing new Graco Hydra-Clean combines hydraulic pressure with water soluble detergent . . . makes floors, walls, machinery, etc., gleam like new in minutes.

Graco Hydra-Spray lets you spray paint without using atomizing air. Eliminates virtually all overspray, gives better, faster coverage. Makes 7 gals. of paint do the work of 10!

Team them up! You'll cut your time and cost for maintenance cleaning and painting *easily in half!*

Graco Hydra-Clean loosens and flushes away all dirt, grit, grime and scale. Air pump fits any 15-55 gal. container.

Portable Hydra-Spray goes right to the job, applies protective coatings in half the time of conventional methods.

COST CUTTING EQUIPMENT BY

GRACO

GRAY COMPANY, INC.
57 Graco Square
Minneapolis 13, Minn.

Get FREE Catalog Literature
Illustrated Hydra-Clean and Hydra-Spray brochures are available from the factory or from your local Graco Distributor. You'll find his name listed under "Spraying" in the telephone book Yellow Pages. *Write or call today!*

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HOW TO ENGINEER SPECIFY ORDER PRICE...

AIR POWER CYLINDERS

Here is complete engineering data on Hannifin's newest line of air power cylinders. Every mounting style is fully dimensioned in all sizes. Standard models or special modifications are made easy to specify. The price sheet, too, is easy to understand, easy to use.

Write for Bulletin 213-B.

HANNIFIN

Hannifin Company, 527 South Wolf Road, Des Plaines, Ill.
(Hannifin Company is a division of Parker-Hannifin Corporation)

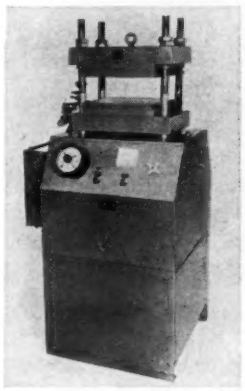
▲ For more details circle NED-694 E on enclosed inquiry slip ▲

POWER STRAPPING TOOL uses round steel strapping

Weighing only 14 lb, Model 16 portable strapping machine is available in compressed air or electrically operated versions. Machine speeds up industrial and commercial packaging operations using 15 to 19½-gage round steel strapping with tensile strengths up to 125,000 psi. It uses strapping directly from a coil, and once threaded, it tensions, ties and cuts the strap with one motion. • **United States Steel Corp.,** U. S. Steel Supply Div., 208 S. La Salle St., Chicago 90, Ill.

▲ For more details circle NED-695 E on enclosed inquiry slip ▲

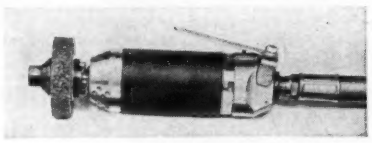
30-TON LABORATORY PRESS has self-contained power unit



Both upper and lower platens of this 30-ton hydraulic laboratory press are electrically heated and independently controlled. The hydraulic ram is powered by a compact power unit in the base, driven by a ¾-hp 220 or 220/440 v motor. Work is performed at a convenient height. All dials and controls are mounted on a sloping instrument panel. Press features chromium plated columns, jig bored platen guide holes, and quick platen opening and closing. • **Wabash Metal Products Co.,** 1506 Morris St., Wabash, Ind.

▲ For more details circle NED-696 E on enclosed inquiry slip ▲

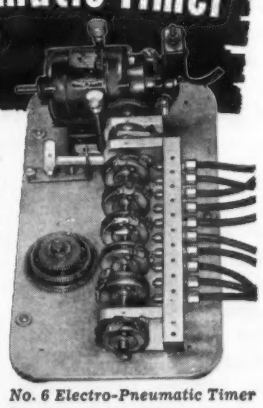
PNEUMATIC GRINDERS 10 speeds from 16,000 to 25,000 rpm



Burring, die grinding and contouring, flash removal, snagging, weld smoothing, and other metal removing operations are performed by Series 921 pneumatic grinders. Small grinding wheels, rotary files, carbide burrs, and sanding and cutting discs are used. Ten available speeds are from 16,000 to 25,000 rpm. Spindle and collet chuck models have lever, pushbutton, or ring-throttle controls. Wide choice of grinding wheels and mounted accessories is permitted by spindle and collet adaptors. • **Thomas C. Wilson, Inc.,** 21-11 44th Ave., Long Island City 1, N. Y.

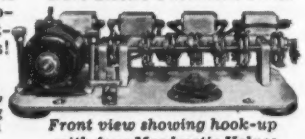
▲ For more details circle NED-697 E on enclosed inquiry slip ▲

THIS CLEVER, DEPENDABLE
Electro-Pneumatic Timer
Controls Intricate Work Cycles...



This simple but astonishingly ingenious unit distributes air pressure to air-operated cylinders, presses, hammers, work feeders, clamping fixtures, chip blowers, work ejectors . . . each independent as to start, duration and end of cycle. Simply connect up 6, 12 or more cylinders in numerous sequences from 2½ to 33½ seconds. *You need this inexpensive* Mead Electro-Pneumatic Timer for cost-saving automation jobs!

No. 6 Electro-Pneumatic Timer



Front view showing hook-up with four Meadmatic Valves

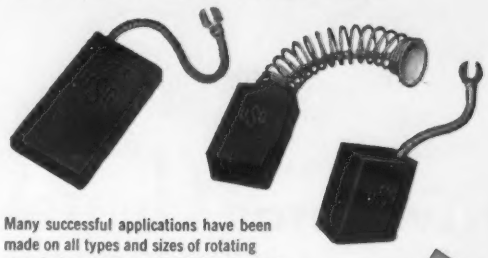
Write Factory or Nearest Mead Representative For Bulletin 1250, Write for our cost-saving catalog. Or let the Mead Man show you.

(See Volume IV Thomas' Register for nearest distributor's address, phone number.)

MEAD SPECIALTIES COMPANY
4114 N. Knox Ave., Dept. 1250, Chicago 41, Ill.
PATHFINDER IN AIR POWER AUTOMATION

▲ For more details circle NED-698 E on enclosed inquiry slip ▲

ANY TYPE OR SIZE
USG® BRUSH FOR
FRACTIONAL HP OR INDUSTRIAL MOTORS



Many successful applications have been made on all types and sizes of rotating electrical equipment with USG motor and generator brushes and contacts manufactured by The United States Graphite Company. USG brushes are available in OEM production quantities or for replacement purposes in the following grades: carbon, carbon-graphite, electro-graphitic, graphite and metal-graphite. Special grades can be developed to meet your specific needs.

Write today for Engineering Handbook B-56 and the Brush Grade Supplement.

THE UNITED STATES GRAPHITE COMPANY
DIVISION OF THE WICKES CORPORATION • SAGINAW 10, MICHIGAN
B-282-1

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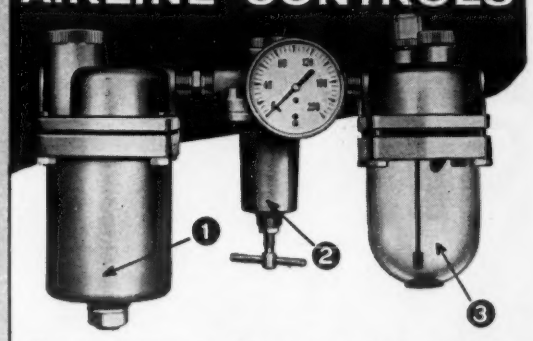
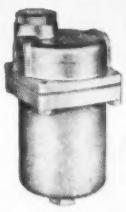
GIVE AIR-OPERATED EQUIPMENT CLEANEST, DRIEST, BEST-REGULATED LUBRICATION!

ALEMITE "TRI-DUTY" AIRLINE CONTROLS



Here's positive, performance-proved protection . . . for air tools, air cylinders, air motors, and many other types of air-operated equipment. Specifically designed for longer service life and peak efficiency under tough operating conditions!



1 Automatic Water Separator. Removes all of condensate, all the time. Traps dirt particles to prevent damage to sensitive airline devices. Handles all airline pressure up to 200 PSI and flow volume from 5 to 50 CFM. Easily accessible filter unscrews by hand for simplest possible cleaning . . . just one piece . . . no tools required.

2 New Air Regulator with Gauge. Assures accurately controlled air—prevents erratic operation and damage to equipment. Design permits inlet pressures of 250 PSI—adjustments up to 125 PSI. Excess air pressure "bleeds off" within regulator, instantly.

3 Automatic Airline Lubricator. Compensating ball valve design controls air flow. Oil particles are atomized for most efficient transmission through supply lines. Result—uniform mixture regardless of air pressure and volume. Oil and air mixture proportionately constant. Reservoir may be filled at any time, assuring continuous operation. Nine-ounce capacity.

Write for catalog today!

Symbol of SW Excellence

ALEMITE DIVISION **STEWART-WARNER** CORPORATION

Dept. HH-50, 1850 Diversey Parkway, Chicago 14, Ill.

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NEW ROTOR Airiter

saves time on all marking jobs

This new Rotor marker has been proven in scores of shops on parts and tools of all sizes . . . materials of all kinds. Users report it outperforms other air markers and other marking methods in ease and speed. Its fine control, with throttle located *on the tool,* adjusts its speed and depth of mark easily to suit every job. Short-stroke carbide stylus makes up to 12,000 blows per minute. Will not stall while writing. Try it in your shop and see how it writes circles around other methods! Send us your purchase order. Money refunded if, after a five-day trial, the tool is unsatisfactory. *The Rotor Tool Company, 26335 Lakeland Blvd., Cleveland 32, Ohio.*

Only $49.50 plus postage
DEALERSHIPS AVAILABLE

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ORCO IDEA PARTS

shape up OEM designs—profitably!

The Ohio Rubber Company is geared to provide savings in rubber and rubber-like parts via experienced engineering counsel and full manufacturing capacity.

Here's how: Compounding and coloring basic material • Designing, building, maintaining precision molds and dies • Special tools and fixtures for large quantity production items • Permanent bonding-to-metal • Compression and transfer molding • Extruding of all shapes, sizes and types of parts • Complete laboratory facilities • Experienced technical research and development facilities • Statistical quality control • Coordinated production control.

For the complete story of ORCO "Customeering" send for Bulletin 715. G-160

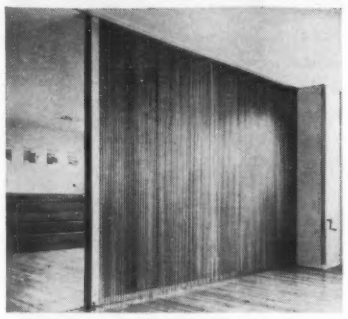
*Trademark of The Ohio Rubber Company

THE OHIO RUBBER COMPANY
General Office • WILLOUGHBY, OHIO • WHitehall 2-0500
A DIVISION OF THE EAGLE PICHER COMPANY

▲ For more details circle **NED-702 E** on enclosed inquiry slip ▲

SIDE COILING PARTITIONS

of wood for up to 125-ft openings

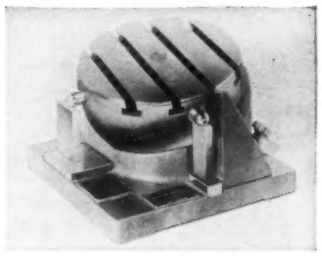


Architecturally attractive wood side-coiling partitions are offered for openings up to 24 ft high and 125 ft wide for single openings, or 250-ft wide for double openings. Wood slats are cut to modified tongue and groove V-faced pattern and travel freely and quietly on nylon ball bearing wheels inside the aluminum upper track. Safety device that stops forward motion upon contact with any object is available on machine operated partitions. Floor track is installed with clean-out boxes for easy maintenance. • **Cookson Co.,** 1525 Cortland Ave., San Francisco 10, Calif.

▲ For more details circle **NED-703 E** on enclosed inquiry slip ▲

SINE TABLE

five sizes accurate to 10 sec of arc

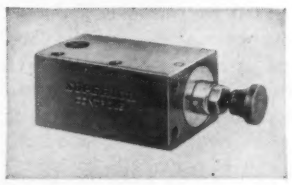


Inspection of jigs and gages and manufacture of components on grinding and jig boring machines are uses for the Matrix compound angle sine table. A hemisphere riding in a conical seat permits any angle up to 45 degrees to be set as a single or compound angle. Table is accurate to 10 sec of arc. Sine settings are obtained by inserting gage blocks under two ball-ended pins spaced 90 degrees apart. With setting completed, the blocks are removed and the table is locked. Table can be used with an auto-collimator and angle gage blocks for optical settings of angles. The 9-in. size is shown; 13, 18, 26, and 36-in. diameters are also made. • **Engis Equipment Co.,** 431 S. Dearborn St., Chicago 5, Ill.

▲ For more details circle **NED-704 E** on enclosed inquiry slip ▲

SINGLE-ACTING CYLINDER

has 1-in. bore, ¾-in. stroke

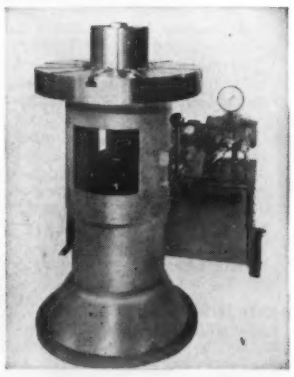


Mounted horizontally or vertically in a minimum of space, the Model BL-1 single-acting cylinder can be used in 150-psi air or 500-psi oil or water service. It has a 1-in. bore and a ¾-in. stroke, and its ½-in. ram is internally threaded to receive an adjustable hardened face pad or a 15-degree swivel pad. Wrench flats facilitate ram-end length adjustment. Several cylinders may be unitized for operation from a single control in clamping, work feeding, or ejection of parts. Swivel action of ram pad suits it for clamping uneven work pieces. • **Superior Screw & Mfg. Co.,** Superior Controls, Commercial Road, Crystal Lake, Ill.

▲ For more details circle **NED-705 E** on enclosed inquiry slip ▲

HYDRAULIC EXPANDING MACHINES

stretch metal cylinders to size



Sizing or stretching sheet metal cylinders, cones, or bands to close size limits for resistance or fusion welding is performed by Greenerd E-62 and E-93 hydraulic expanding machines. Ring fits between sheet metal parts and line-to-line fits between sheet metal cylinders and solid flange rings can be obtained easily. Both E-62 and E-93 machines have 30-in. diameter tables and maximum pulls of 62 and 93 tons, respectively. The 6-in. high 12-segment master jaws expand from 7.572-in. minimum to 9.158-in. maximum diameter. Machines may be furnished for stretch-forming metal cold, or water-cooled for working hot materials. • **Greenerd Arbor Press Co.,** 41 Crown St., Nashua, N. H.

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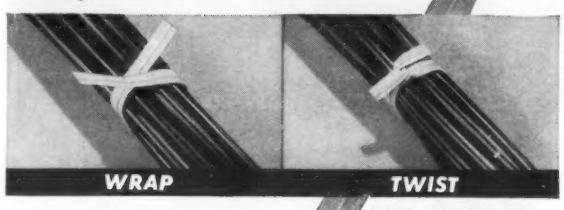
Speed Tying Operations!



★ Cheaper than String
★ Faster than Tying
★ Sure Grip
★ Colorful

NO KNOTS TO TIE!

Cut your tying time in half! Hanscom-Ties are the fast, sure way to bundle wires, cords, coils, etc. Nothing to tie. Just wrap 'em around and twist. For temporary or semi-permanent holding. Available in cut lengths 1" to 24" and on spools — bright colors or printed. Prices from 26c per thousand. WRITE FOR SAMPLES and TRY 'EM YOURSELF.

H.F. Hanscom & Co., Inc.
15 Virginia Avenue
Providence 5, R.I., U.S.A.

Top view of Hanscom-Tie is shown. Bottom is flat

Hanscom-Ties®

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FOOTE BROS. SHAFT MOUNTED DRIVES with Duti-Rated LIFETIME GEARING

High hardness, premium quality Duti-Rated Lifetime Gearing in Foote Bros. Shaft Mounted Drives gives them greater load carrying capacity with long service life. Quick, easy installation on driven shafts with diameters from 15/16" to 3-7/16" saves time, labor, eliminates need for couplings and adjustable motor mount. Built-in backstop to prevent reverse rotation.

Write for Shaft Mounted Drive Catalog.

FOOTE BROS. GEAR AND MACHINE CORPORATION
4569 South Western Boulevard, Chicago 9, Illinois

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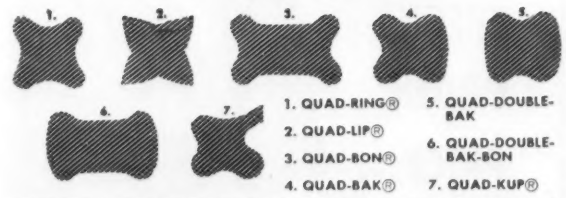
SPECIAL QUAD-RING® DESIGNS

MINNESOTA RUBBER



1. QUAD-RING®
2. QUAD-LIP®
3. QUAD-BON®
4. QUAD-BAK®
5. QUAD-DOUBLE-BAK
6. QUAD-DOUBLE-BAK-BON
7. QUAD-KUP®

QUAD-RING® BASIS FOR THE DESIGN OF A WHOLE FAMILY OF VERSATILE SEALS

QUAD-RING—An exclusive development of Minnesota Rubber to give outstanding service in a wide range of dynamic and static sealing applications. **QUAD-LIP**—Developed for applications which require zero leakage at very low pressure differentials with minimum mechanical interference. **QUAD-BON**—Provides maximum resistance to spiraling in the smallest space possible while maintaining the sealing characteristics of the basic QUAD-RING. **QUAD-BAK**—Designed to eliminate damage to packing when subjected to extreme extrusion in one direction only. **QUAD-DOUBLE-BAK**—A double acting packing for maximum resistance to extrusion while maintaining two effective sealing lips. **QUAD-DOUBLE-BAK-BON**—Provides maximum resistance to both spiraling and extrusion in a double acting installation. **QUAD-KUP**—A unidirectional seal used where low friction is desirable but tolerances require a relatively large rubber-to-metal interference to take up for runout. These special cross sections of the basic QUAD-RING design are just a few of the modifications possible to give complete versatility for any sealing application.

FOR MORE INFORMATION ON QUAD-RINGS AND A COPY OF THE MINNESOTA RUBBER FACT BOOK . . .

MINNESOTA RUBBER

WRITE DEPARTMENT 626 • 3630 WOODDALE AVENUE
MINNEAPOLIS 16, MINNESOTA

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+250°

IN THE PLANT--
use TIME TAPE for best results!

Available in plain or pre-printed. Here's the time-tested, proven cost-cutter for wire harness numbering, inventory, stock room, radio tube, wiring diagrams, etc. TIME TAPES and LABELS resist temperatures from +250° to −70°! They are not affected by grease, dirt, water or acids.

WRITE ON IT! TYPE ON IT! TIME TAPES and LABELS accept pen, pencil and ballpoint markings. Eliminate guesswork . . . be sure with TIME!

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Samples and prices on request!
Write to — Dept. N.S.P.

TIME LABELS

PROFESSIONAL TAPE CO., INC.
355 Burlington Ave. Riverside, Ill.

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Bullard TIP-LOCK Safety hoist hooks lock loads in and protect men and materials. So rugged and simple, they will operate for years with practically no maintenance ...yet the TIP-LOCK hook is made with such precision that a touch of the finger opens the gate. In sizes 6 (5,500 lbs.) through 18 (100,000 lbs.) to fit all makes and models of hoists, cranes and derricks.

BULLARD
INDUSTRIAL SAFETY EQUIPMENT

Write for Tip-Lock Safety Hoist Hook Data Sheet

E. D. BULLARD CO.
SAUSALITO, CALIFORNIA

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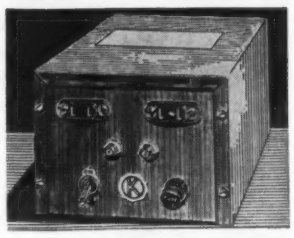
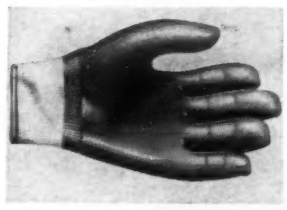
TRANSISTORIZED INVERTER
has 12.6 v input, 115 v ac output



Continuous power output rating of the IA-1260-25 transistorized inverter is 250 w and the maximum power available is 350 w. It has a 12.6-v dc input and an output of 115 v ac at 60 cycles ±3 cycles. It will operate light duty power tools, tape recorders, radios, small sprayers and other equipment. Full-load efficiency is 80 per cent. The quiet-operating inverter is usable over a −55 to 60° C range. A 10-lb unit, it measures 4½ x 5¾ x 8 in. and has a heavy anodized aluminum chassis. • **Kupfrian Mfg. Corp.**, 386 State St., Binghamton, N. Y.

▲ For more details circle NED-712 E on enclosed inquiry slip ▲

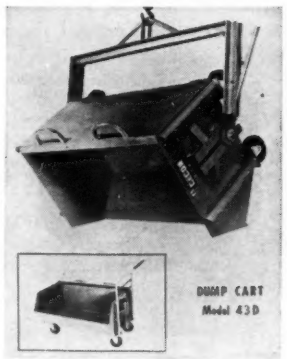
PLASTIC COATED GLOVE
for handling wet or dry objects



Toughness and long wear are imparted to Monkey Grip work gloves by improved plastic coating. Comfort has been increased by use of two-piece liner which eliminates all seams in the work area. They provide excellent dry grip and are job fitted for handling rough and abrasive materials, as well as products in oil, acid, caustics, and alcohol. Curved, preflexed fingers and wing thumb contribute to wearing comfort. Gloves are available in various styles, including fully coated gauntlets, palm or fully coated wrists, and types with triple-thick palms. • **Edmont, Inc.**, Walnut Street, Coshocton, Ohio.

▲ For more details circle NED-713 E on enclosed inquiry slip ▲

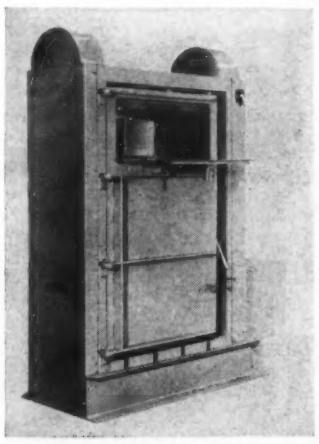
DUMP CART
hoist type frame speeds dumping



Hoist frame with trigger release for Model 43D side loading dump cart speeds up dumping of chips, scrap, waste, or small parts. Frame latches securely to the cart and, at dumping level, pressure on the spring trigger overturns cart which swivels through 360 degrees. Frame is available with pockets for use with fork lifts. Cart is made of 12-gage welded steel and carries up to 500-lb loads on four 5-in. swivel casters. It has two permanently mounted side handles and a removable handle which fits sockets at either end of cart. Stainless steel construction, as well as drain racks and plugs, can be specified. • **Coolant Equipment Corp.**, S. Main Street, Verona, Wis.

▲ For more details circle NED-714 E on enclosed inquiry slip ▲

PAPER BALER
two models bale 500 lb per hour



Up to 34 x 28 x 17-in. paper bales weighing up to 200 lb are delivered by Models 2810 and 2812 baling machines which are rated 500-lb per hr baling capacity. Total over-all pressure is 8000 lb. Model 2810 has shredder feed opening of 9¾ in., shreds ⅛ in. wide, takes up to 8 thicknesses of newspaper per feeding and shreds up to 100 lb per hr. Model 2812 has 11¾-in. feed opening, shreds 3/16 in. wide, takes up to 16 paper thicknesses (12 thicknesses of blueprint paper), and shreds up to 300 lb per hr. Balers in both models are powered by ½-hp motor. Paper clips and fasteners will not damage shredder units. • **Baler Corp.**, 4039 Walden Ave., Lancaster, N. Y.

▲ For more details circle NED-715 E on enclosed inquiry slip ▲

DEMING DEMERSIBLE SUMP PUMPS

Just one of the many Deming pump features that provide longer life and lower operating costs

The DEMING Co.
506 BROADWAY • SALEM, OHIO

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SPECIFY
Gary WELDED STEEL GRATING
with the hexagonal cross bars

Tested and proved in millions of square feet! Used under all conditions, for open flooring and stair treads, Gary's hexagonal cross bar design and square edge strip assure a more durable, safer, neater grating. Pressure welded construction forms cross bars and main bars into a rugged one-piece grating. Tops of all bars are flush.

Pre-cut to your specifications. Whatever your needs in type and size, factory-fabricated Gary Grating saves you installation time and money. Careful quality control assures dimensional stability, long life and neat appearance.

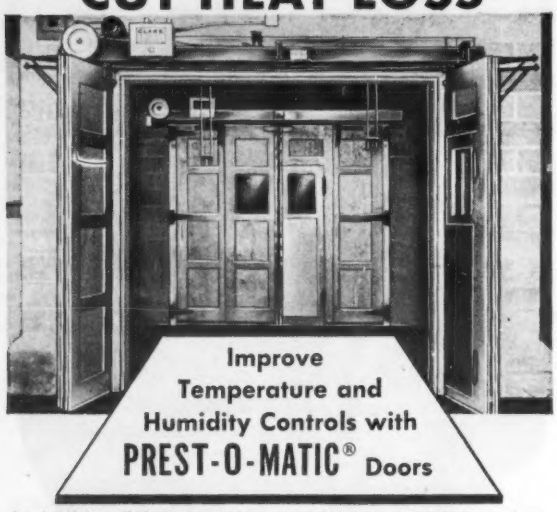
Gary Grating can also be furnished in a variety of stainless steels and aluminum.

Specify Gary Grating . . . either in steel or aluminum . . . for all your functional and decorative grating and stair tread requirements. Write today for free catalog – Dept. E-10, 4045 E. Seventh Ave., Gary, Indiana.

ROCKWELL-STANDARD CORPORATION
Grating Division, Gary, Indiana

▲ For more details circle NED-717 E on enclosed inquiry slip ▲

CUT HEAT LOSS



Prest-O-Matics eliminate drastic temperature changes and drafts 2 ways:
• By reducing open-door time. Open-Close cycle is completed automatically in **6 seconds.**
• By sealing out leaks. Engineered to snug-fit your doorways, Prest-O-Matics remain tightly closed when not in use. Flexible Neoprene Seals minimize heat or air-conditioning loss.

Add the man hours these doors save by speeding traffic and you'll see why **so many** blue chip companies insist on Prest-O-Matics. Complete in one easy-to-install unit. No extras.

Available with your choice of AIR OR ELECTRIC MOTIVE POWER. Before you buy **any** door, write for Free catalog.

CLARK DOOR COMPANY, INC. *(since 1878)* — 511 Hunterdon St., Newark 8, N. J.

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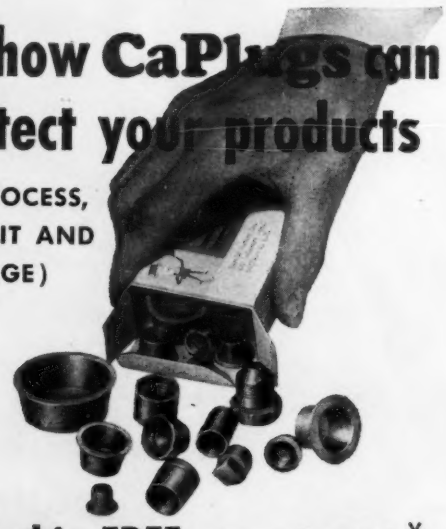
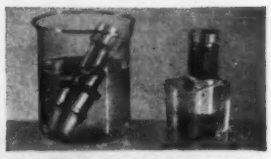
see how CaPlugs can protect your products

(IN PROCESS, TRANSIT AND STORAGE)



test this FREE assortment*

SEE HOW EASY THEY SLIP ON...AND OFF! Made of tough, flexible Polyethylene, tapered (non-threaded) CaPlugs can be used as caps or plugs, inside or outside of threaded or plain fittings. Threaded styles are knurled to spin on or off with ease. Costing less to buy, they cost less to apply.



SEE HOW THEY WITHSTAND ACIDS, SOLVENTS, HEAT AND COLD... and keep out dust and moisture, too. Dunk a CaPlugged product in any solution. CaPlugs are impervious to most common chemical reagents, acids and solvents...withstand temperatures from −94°F. up to 175°F.

SEE HOW TOUGH THEY ARE. For proof, drop a product on its CaPlug...tap it with a mallet...or make a trial shipment of parts with CaPlugs applied. You'll find that these versatile closures provide "kid-glove" protection and will not collapse, chip, break or shred under the most severe of conditions.

***YOU'RE INVITED TO TEST Ca Plugs** in any way you choose. Ten different styles are promptly available in over 500 stock sizes. The coupon below will bring you a random assortment plus illustrated literature. Additional samples in specific sizes for testing are also yours for the asking (details in literature).

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RUSH free assortment of CaPlugs, literature and prices to us.

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FIRM _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

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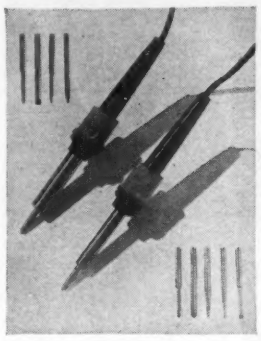
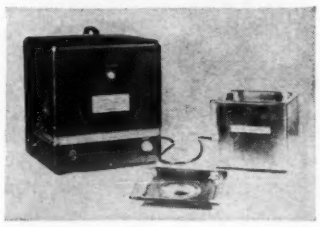
SOLDERING IRONS
pencil size 35 and 50-w units



Weighing less than 2 oz and only 7½ in. long, two Kwikie pencil size soldering irons have heavy duty heating elements for continuous production or general use. Irons are similar, one having a 35-w heating element in its ⅜-in. diameter barrel and the other a 50-w element in a ½-in. barrel. Temperatures ranging from 600 to 1000° F are attained in 1 min 10 sec. Interchangeable tellurium copper, nickel, or iron plated tips are available in straight or taper shank chisel, pyramid, bevel, and screwdriver types. Two or three-conductor cords are 6 ft long. • **Kwikheat Mfg. Co.**, 3732 San Fernando Rd., Glendale 4, Calif.

▲ For more details circle **NED-720 E** on enclosed inquiry slip ▲

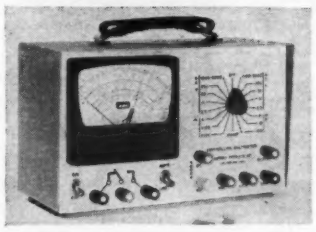
ULTRASONIC CLEANER
generates high and low frequencies



Both high and low frequencies are generated simultaneously in the Poly-Sonic V-100 ultrasonic cleaner for tools and gages, valve parts, etched circuit boards, electromechanical parts, semiconductor slices, and potentiometer parts. Cleaner also produces uniform concentration of sonic power throughout the chamber and operates at solution temperature of 125° C. It operates at 400 kc with overtones of other frequencies ranging down to 20 kc. Dirt particles from large to 1 micron size are removed from small crevices and recesses. Stainless steel cleaning tanks of 1¼ to 3½-qt capacity are available. Price is $490. • **McKenna Laboratories**, 2503 Main St., Santa Monica, Calif.

▲ For more details circle **NED-721 E** on enclosed inquiry slip ▲

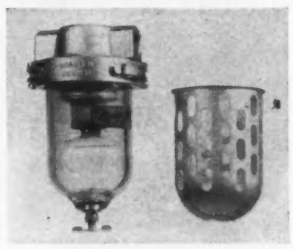
CONTROLLING MULTIMETER
has adjustable meter-relay



Combining a conventional multimeter with all the customary ranges, and a continuous reading meter-relay with adjustable set points, this controlling multimeter will guard virtually any critical voltage, current, or resistance. Control action can be linked directly to signal, regardless of what value is being monitored. The single-pole double-throw load relay has 5-amp contacts to handle almost any audible or visual alarm. It also works into power relays, servo motors, timers, power supplies, motor-driven auto-transformers, and other controls. Instrument has 2.5, 10, 50, 250, and 1000-5000-v ac and dc ranges and current ranges of 0/100 microamps, 0/10 ma, 0/100 ma, and 0/10 amp. Resistance range is to 20 megohms. • **Assembly Products, Inc.**, Chesterland, Ohio.

▲ For more details circle **NED-722 E** on enclosed inquiry slip ▲

COMPRESSED AIR FILTER
removes liquids and solids



Plastic and metal bowls are offered for use with Series 30 BE and 30 BE-N air line filters, the latter withstanding higher temperatures and pressures and rough usage. Both are available for ¼, ⅜, and ½-in. lines. Improved baffling removes all liquid from the air. Four optional and interchangeable filter elements for removal of solid particles are easily cleaned for reuse. Filter is furnished with a 74-micron, 200-mesh, reinforced Monel wire screen unless otherwise specified. Options are 64, 25, and 5-micron sintered metal elements. • **C. A. Norgren Co.**, 3400 S. Elati St., Englewood, Colo.

▲ For more details circle **NED-723 E** on enclosed inquiry slip ▲

PUMPS most anything* THAT POURS!

*A few exceptions. Write for approved list.

Take the risk and waste out of liquid transfer! This rugged Tokheim Hand Pump, with alternate diaphragms, handles most anything from diesel oil to acetates—safely, quickly, without spillage. Eliminates fire hazards and accidents, aids good housekeeping. Accelerates production, too. Pumps 20 gallons per 100 strokes. Get list above from your Tokheim dealer, or write direct today.

General Products Division
TOKHEIM CORPORATION
DESIGNERS AND BUILDERS OF SUPERIOR EQUIPMENT SINCE 1901
1656 Wabash Avenue Fort Wayne 1, Ind.

Subsidiaries: Tokheim N.V., Leiden, Holland—GenPro, Inc., Shelbyville, Ind.
Factory Branch: 475 Ninth Street, San Francisco 3, California
In Canada: Tokheim-Reeder of Canada, Ltd., 205 Yonge St., Toronto, Ont.

▲ For more details circle **NED-724 E** on enclosed inquiry slip ▲

THOMSON "Snap-In" **NYLINERS**
—BEARINGS of smooth, tough DuPont NYLON

COST less to BUY ...less to INSTALL ELIMINATE LUBRICATION!

Additional Benefits:
• CLOSE FIT • LONGER LIFE • EASILY INSTALLED • LESS SERVICING • SELF-RETAINING • RESIST CORROSION
• LOW FRICTION • RESIST POUNDOUT • NO FRICTION OXIDATION • DAMP VIBRATION • OPERATE IN LIQUIDS • NON-CONTAMINATING
• INSTANTLY REPLACEABLE • RESIST ABRASION • MINIMUM SPACE • SILENT OPERATION • LIGHTEST WEIGHT • REDUCED WEAR

NYLINER Bearings are a highly engineered thin liner of DuPont Nylon, designed to bring bearing users the many benefits of Nylon as a bearing material by solving most of the limitations surrounding its use. The compensation gap principle assures maintenance of diametral tolerances for precision applications.

Seven Standard Types available from stock... Write for literature and name of your local representative who stocks NYLINER Bearings for immediate shipment.

THOMSON INDUSTRIES, Inc.
DEPT. 9, MANHASSET, NEW YORK

Also—Manufacturers of BALL BUSHINGS ... the Ball Bearing for Linear Motions and 60 CASE ... Hardened & Ground Steel Shafting

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HERE'S HOW TO **SAVE TIME • MONEY and TROUBLE**

on Industrial Rubber
• COMPOUNDING
• MOLDING

If you fabricate with rubber or silicone rubber parts, or need assistance in development of special rubber compounds, investigate the advantages of using the specialized rubber compounding and molding service made available by the Colonial Rubber Company.

The full story of our long experience in industrial rubber development and production, and full details on our research laboratories, die-making facilities and rubber production plant is told in our 16-page brochure. Write for it today and read how Colonial is able to save time, money and trouble on rubber parts development and production. 1968

COLONIAL RUBBER CO.
RAVENNA, OHIO

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Muscle-Saving LIGHTNESS that gets More Work Done Faster, Easier, Safer...

mpm Lightweight MAGNESIUM DOCKBOARDS

867 models and sizes to match YOUR needs

mpm Dockboards in hundreds of standard dimensions, plus unlimited varieties adaptable for quick job-engineered special uses, makes **mpm** your first choice for job-fitting efficiency. Write, or phone for an mpm Dockboard expert, and estimates that bring your handling costs down to rock bottom.

Write for Bulletin TR-656 covering technical details on mpm Standard and Job-Engineered Dockboards.

mpm
MAGNESIUM PRODUCTS OF MILWAUKEE, INC.
740 N. Plankinton Ave.
Milwaukee 3, Wisconsin

▲ For more details circle NED-727 E on enclosed inquiry slip ▲

METALSET® A4

Epoxy Resin in Tubes

ADVANTAGES OF METALSET

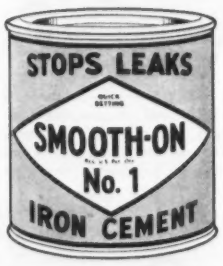
Bonds and cements iron, steel, aluminum, ceramics, concrete. Tough for shock resistance. Packed in self-metering tubes. Also available in 2½, 5, 20 and 100 pound cans. • Water- and oil-proof • Chemically stable.

TYPICAL METALSET REPAIRS

- Stops leaks in tanks, metal roofs, gutters, radiators, pipes
- Caulks conduits, flues, casements, skylights, all sheet metal
- Smooths and fills metal and wooden surfaces
- Machinable; can be drilled, tapped, sanded
- Makes all loose parts tight
- Anchors bolts and screws in wood, concrete, plaster

SMOOTH-ON IRON CEMENT
"SMOOTH-ON NO. 1"

Smooth-On is a dry powder, 70% iron. Mix it with water, it metalizes as it hardens. Resists high temperatures. Expands as it sets to fill a break or hole in any metal. The standard since 1895.
• Smooth-On is a metal filler. Metalset is a coating and bonding compound. Taken together, they meet any emergency.

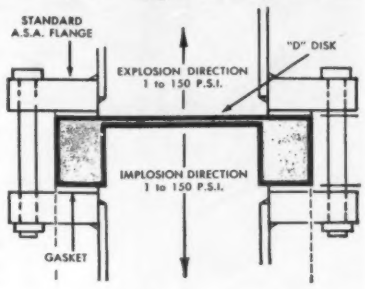


METALSET
Made by SMOOTH-ON MANUFACTURING CO.
572 Communipaw Avenue, Jersey City 4, N. J.

▲ For more details circle NED-728 E on enclosed inquiry slip ▲

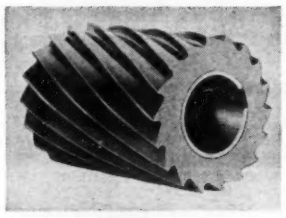
TANK RUPTURE DISC
guards against explosion, implosion

Permanent and portable storage tanks are protected against both implosion and explosion at pressures up to 150 psi by the D disc, and Impervite rupture disc which is placed in the tank nozzle. Discs are accurate to ±5 per cent of rated burst, even at low pressures to 10 psi. Depending upon size, they are available in burst ratings to 1 psi. Discs are unaffected by most corrosives at temperatures to 650° F, are nonporous, and mount in standard ASA flanges. • **Falls Industries, Inc.**, Aurora Road, Solon, Ohio.



▲ For more details circle NED-729 E on enclosed inquiry slip ▲

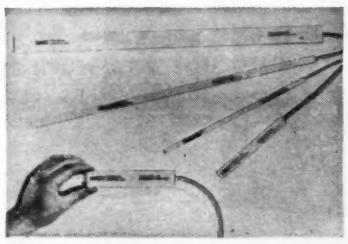
MINIATURE SLAB MILL
solid carbide machines superalloys



Sizes with 1 to 2-in. diameters and 1 to 3-in. lengths are available in this solid carbide miniature slab mill. It is capable of machining superalloys, ultra-strength steel, refractory metals, and nuclear reactor metals. Fluting coarseness is optional and flute geometry is available as required. Certain operations are reported with a finish comparable to that of grinding. Tool has a brazed split steel sleeve driver. • **M. A. Ford Mfg. Co.**, 1545 Rockingham Rd., Davenport, Iowa.

▲ For more details circle NED-730 E on enclosed inquiry slip ▲

TEMPERATURE DETECTORS
in strip lengths from 6 to 22 in.

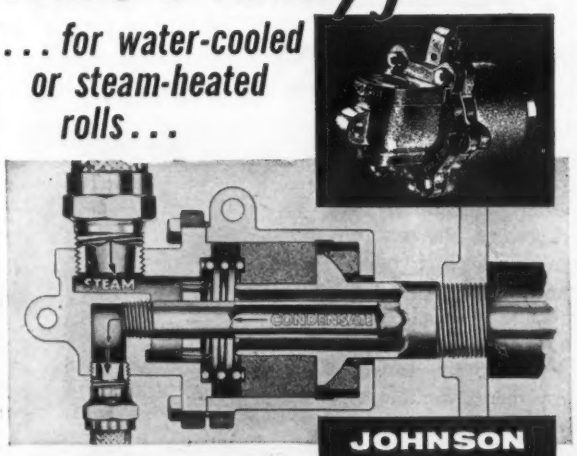


Class H resistance temperature detectors for sensing applications to 260° C are made in any width from 0.30 to 1.25 in. and in any length from 6 to 22 in. They are rated for continuous operation to 200° C in stator slots of large rotating machinery and similar applications. Resistance values available are 10 ohms, ±0.02 ohm at 25° C and 120 ohms, ±0.6 ohm at 0° C. Flexing or bending does not affect accuracy. Prices range from $12 to $24. • **Minco Products, Inc.**, 740 Washington Ave. N., Minneapolis 1, Minn.

▲ For more details circle NED-731 E on enclosed inquiry slip ▲

Need a rotary joint?

. . . for water-cooled or steam-heated rolls . . .



JOHNSON Rotary Pressure JOINTS

Type SB illustrated is completely self-supporting. For fully engineering data write for Bulletin S-3002.

Johnson started the whole idea . . . is far ahead in know-how, available types and sizes. Johnson Joints are completely packless, need no lubrication or adjustment. Used on dryer rolls, mills, waxers, calenders, slashers, printing presses, etc.—handling steam, water, hot heat transfer oils, Dowtherm, Mansanto Aroclors, etc. Actually serving under pressures as high as 2400 psi. Sizes up to 8".

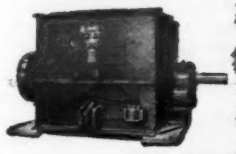
THE JOHNSON CORPORATION
812 Wood St., Three Rivers, Michigan

▲ For more details circle NED-732 E on enclosed inquiry slip ▲

Jeffrey Pulverizer crushes fluxstone fine for efficient sintering

The Jeffrey Type B Pulverizer crushes *fine*—standard ⅜", or ⅛" when required. This unit is reversible, designed for heavy-duty work, dust-tight with hydraulic adjustments. Power requirements are less than with other units.

For complete information check your nearest Jeffrey sales engineer. The Jeffrey Manufacturing Company, 952 North Fourth Street, Columbus 16, Ohio.

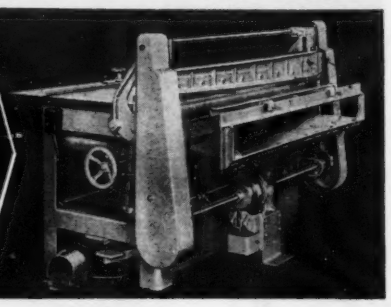


CONVEYING • PROCESSING • MINING
JEFFREY
EQUIPMENT...TRANSMISSION MACHINERY...CONTRACT MANUFACTURING

▲ For more details circle NED-733 E on enclosed inquiry slip ▲

HOBBS Standard Power Shear

Cut:
LEATHER
PAPER
PLASTICS
CORK
MICA
RUBBER
CLOTH
ASBESTOS
FIBERBOARD
LINOLEUM



Cuts Cleanly, Accurately At 85 Strokes Per Minute

This Hobbs Shear — available in 50", 60" and 84" models — meets your need for power cutting natural and synthetic materials swiftly, cleanly and accurately. Design allows operator to use both hands for feeding and handling. Easy adjustments for clean and accurate cutting.

Head operates on single cycle or continuously and by either pushbutton or foot switch. Unitized head and drive may be adapted for, or designed into, in-line processing. Cast iron and steel welded construction, rigid and resistant to vibration.

Tell us your cutting, slitting, winding needs — we'll supply engineered answers. Hobbs Power Shear Bulletin on request. Also Jacques hand shears, bench and table models, to meet all requirements.

HOBBS Manufacturing Company
EST. 1882
41 E Salisbury St., Worcester 5, Mass.
Offices and Representatives in Irvington, N. J.; Chicago, Ill.; Cleveland, Ohio; Greenville, S. C.; Louisville, Ky.; Los Angeles, Calif.; Toronto, Ont. and other major cities.

587-8

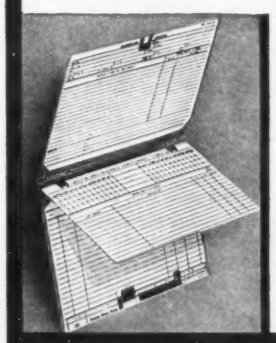
WINDERS & MACHINES • POWER & HAND SHEARS • SLITTERS • DIE PRESSES

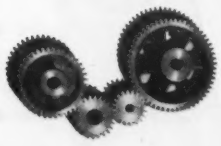
▲ For more details circle NED-734 E on enclosed inquiry slip ▲

You never forget weekly, semi-monthly or monthly lubrication and inspection when Acme Visible is on guard. Maintenance, repair and parts records for each machine are a unit. Therefore all pertinent facts are together. And each unit carries colored signals that flag your eye when it's time to act. Result, far less down time. More production. Send for facts.

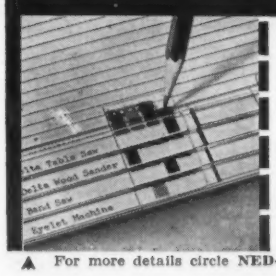
NO MORE MAINTENANCE MISSES

ACME VISIBLE PREVENTIVE MAINTENANCE SYSTEMS SIGNAL EVERY PERIODIC NEED FOR ATTENTION.





ACME VISIBLE



World's Largest Exclusive Makers of Visible Record Systems
ACME VISIBLE RECORDS, Inc.
3405 West Allview Drive, Crozet, Va.
Please send free literature on Acme Visible mistake-proof Preventive Maintenance Systems.

Name_____ Title_____
Company_____
Address_____ City_____ State_____

▲ For more details circle NED-735 E on enclosed inquiry slip ▲

"Foreman's Helper"

Servis Recorder Model M operates electrically, can be installed in foreman's office.

Makes a Record of

PRODUCTION TIME & DOWN TIME

of any machine

This device is called the SERVIS RECORDER. It gives you a precise work record of any machine. If a machine is idle the Servis Recorder reports exactly when and how long the delay lasted. Records are permanent, easy to read, easy to file. They enable you to improve scheduling, determine the cause of down time, and help you set rates.

Mechanical models which attach to machines, lift trucks or vehicles are also available.

WRITE TODAY!

WRITE TODAY! Full information will be mailed to you at once.

THE SERVICE RECORDER COMPANY

1013A ROCKWELL AVE. • CLEVELAND 14, OHIO

For more details circle NED-736 E on enclosed inquiry slip

FOR LIFTING where and when **POWER** you need it . . .

specify **RUGER**

MULTI-PURPOSE CRANES

Ruger Hydraulic Cranes reach in-under-over . . . unload trucks . . . lift motors, machinery and crates . . . lay pipe . . . tilt drums . . . mate dies . . . combine all your lifting and transporting problems into one operation. Manual and electric models available are floor . . . truck . . . convertible floor and truck . . . short mast . . . high mast . . . wide base . . . adjustable leg and retractable outrigger (for side lifting). WRITE FOR DETAILS AND PRICES.

NEW STACK-OR-LIFT ACCESSORY AVAILABLE FOR ½, 1 AND 2 TON MODELS

THE CRANE WITH 1000 USES

RUGER

RUGER EQUIPMENT, INC.

8194-RE 619 W. Fourth Street • Uhrichsville, Ohio

For more details circle NED-737 E on enclosed inquiry slip

Free Sample Tube

Industry's NEWEST Production TOOL

MOLYKOTE® G LUBRICANT

- ALMOST 100% SAFETY AGAINST GALLING AND SEIZING WITH ALL BEARING METAL COMBINATIONS
- ELIMINATES STICK-SLIP, METAL PICK-UP AND DISTORTION IN PRESS FITTING
- REDUCES WEAR-IN TIME AND DAMAGE IN NEW OR REBUILT MACHINERY
- THE HIGHER THE LOADS, THE GREATER THE MARGIN OF SUPERIORITY OF MOLYKOTE G

Write for your free sample of MOLYKOTE G LUBRICANT today. We will also send you a copy of our new Bulletin 126 which gives complete details. THE ALPHA-MOLYKOTE CORPORATION, 65 Harvard Avenue, Stamford, Conn. Phone Fireside 8-3724. Plants in Stamford, Conn., Munich, Germany and Strasbourg, France.

THE ALPHA-MOLYKOTE CORP.
65 Harvard Ave., Stamford, Conn.
Please send me a free sample of your MOLYKOTE G Lubricant.
NAME_____
COMPANY_____
ADDRESS_____
CITY_____ ZONE____ STATE____

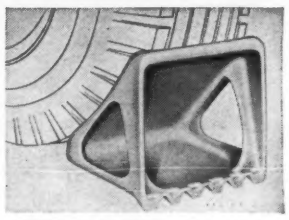
For more details circle NED-738 E on enclosed inquiry slip

AUTOMATIC FEEDING MACHINE
handles flat or coiled stock

Uniform, predetermined lengths of flat or coiled stock are fed to secondary machines by this MAF (Motorized Automatic Feeding) machine. It consists of a friction type roll feed driven by constantly running electric motor-driven flywheel. Measuring control (timer) can be preset to work lengths from 3 to 60 in. and is accurate to 1/32 in. or less. Standard feed speed is 50 sfm. Unit can be manually tripped, or made to cycle with any machine motion. Models for handling stock up to 12 in. wide and up to ⅛ in. thick are available. Equipped with specially contoured rolls, machine can also feed round stock. • **Benchmaster Mfg. Co.**, 1835 W. Rosecrans Ave., Gardena, Calif.

For more details circle NED-739 E on enclosed inquiry slip

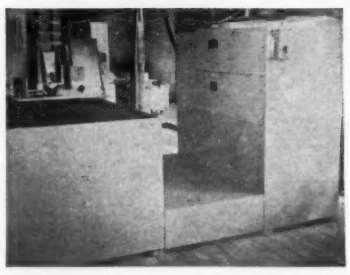
SAFETY WHEEL BLOCK
calks grip pavement or floors



Redesigned face to fit tires, sturdy handles with rounded edges for easy handling, and longer outer calks to grip instantly are improvements in these safety wheel blocks. They will hold trucks, trailers, and other mobile equipment safely during loading or around plants. • **Calumet Steel Castings Corp.**, 1636 Summer St., Hammond, Ind.

For more details circle NED-740 E on enclosed inquiry slip

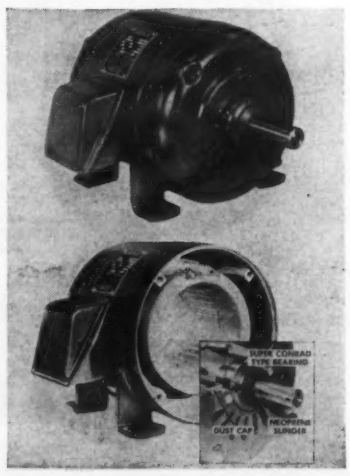
DUST COLLECTING BENCH
operator can work from all sides



High velocity dust collecting bench has a fan and filter compartment that is separate from the grating work surface, but connected by a 12-in. high flat duct. Design enables the operator to work from all sides of the grating surface. Down draft unit is installed on the floor without digging, and is made operable by wiring the starting switch. Addition of a platform the same height as the connecting duct enables the operator to have access at the same height on all sides. • **Wolverine Equipment Co.**, 31 Main St., Cambridge 42, Mass.

For more details circle NED-741 E on enclosed inquiry slip

INDUCTION MOTORS
sizes range from ½ to 125 hp



Several design modifications which reportedly improve performance are incorporated in expanded line of three-phase squirrel-cage induction motors in sizes from ½ to 125 hp. Improvements include Multiguard stator impregnated in thermosetting plastic, diecast aluminum rotor, double shielded Super Conrad bearings which permit operation in horizontal or vertical position, and neoprene slinger in housing seal to prevent entry of dust. Motor is impervious to water, oil, abrasives, and other contaminants. • **Lincoln Electric Co.**, 22801 St. Clair Ave., Cleveland 17, Ohio.

For more details circle NED-742 E on enclosed inquiry slip

Rubber or Plastic Parts Produced by the Hundreds or by the Millions

WE MATCH YOUR SPECS AND YOUR PRODUCTION SCHEDULES

WE CAN produce in quantity any part made of molded solid rubber (illustrated) or of extruded flexible vinyl plastic. We have complete engineering and technical personnel for working with you on developing the design or redesigning a part, plus a long and successful performance record on quality and deliveries to schedule. Send drawing, sketch or part for prompt quote.

REPUBLIC RUBBER DIVISION

LEE RUBBER & TIRE CORPORATION, YOUNGSTOWN 1, OHIO

INDUSTRIAL RUBBER PRODUCTS

For more details circle NED-743 E on enclosed inquiry slip

PACKAGING PROBLEMS?

HERE'S HOW *to close* **SMALL PAPER BAGS**

Send for this interesting, illustrated BULLETIN No. 100 showing how the Union Special *Style 60000 D* bag closing machine can help you solve many packaging problems:

- **FAST**—Speed to match output of standard filling and weighing equipment.
- **NEAT**—Produces an eye-pleasing sales-stimulating package with high merchandising value.
- **ECONOMICAL**—Operating cost per bag is at a minimum . . . uses inexpensive cotton thread and paper tape.
- **VERSATILE**—Adjustable for a wide range of bag sizes, short or long runs.

Write for BULLETIN No. 100 to get the complete facts on this machine . . . and how it can do a *better* closing job for you.

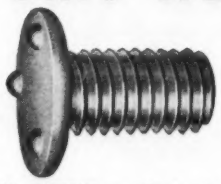
"DUBL-TAPE" CLOSURE

Union Special® MACHINE COMPANY

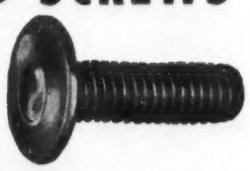
416 N. Franklin St., Chicago 10, Illinois

For more details circle NED-744 E on enclosed inquiry slip

OHIO WELD SCREWS

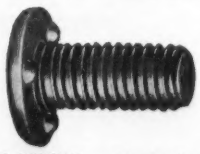


GW SCREWS — Used where design requires a smooth unmarred surface and a fastener permanently fixed in place.



HH SCREWS — Used where a single, button-type projection is required when welding to curved surfaces, to heavy sheet 3/32" or thicker, or to ends of rods.

RW SCREWS — Used where a hermetic seal is required to prevent leakage of air, gas, water, oil or dust, or when welding to perforated metal or wires.



HW SCREWS — Used where a self-locating through bolt is required to be fixed securely in place so that it will not turn and a flush surface is required for attaching mating parts.

Thread Size 6-32 to ⅜-16

Samples and information available upon request.

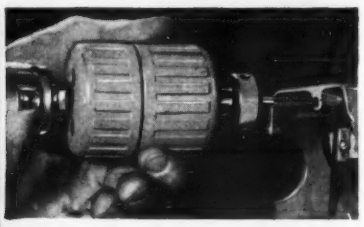
The WELD FASTENERS Primary Fastener in Fastener Assemblies

THE OHIO NUT AND BOLT CO.

14 FIRST AVENUE, BEREA, OHIO

For more details circle NED-745 E on enclosed inquiry slip

New tool makes tapping as simple as drilling a hole!



Tapping used to be considered one of the toughest shop jobs. It was done with expensive tools by mechanics of great skill.

Now—with a *Push-Pull Tapper* it can be done by anyone—expertly—safely. All you need is the Push-Pull Tapper, a portable electric drill and the taps you would ordinarily use. The big advantage of the Push-Pull is CONTROL. Start it, stop it, reverse it without turning off the power. Use it anywhere, for any hole up to 5/16" diameter. Cost—just $29.95.

To see the Push-Pull Tapper demonstrated, circle number on postcard. Supreme's distributor will bring one over.

Supreme Push-Pull® Tapper

BY THE MAKER OF SUPREME BRAND CHUCKS
2222 South Columet Ave., Chicago 16 • Div. A•S•R Products

▲ For more details circle NED-746 E on enclosed inquiry slip ▲

New Variable speed sheave won't freeze, needs no lube

Wood's new "SVS" stationary control, multiple groove sheave has positive locking collars which eliminate fretting corrosion, freezing and sticking. It needs no lubrication . . . permits accurate, simple and infinitely variable speed control . . . is easily installed, accurately balanced to assure smooth operation and long drive life . . . uses standard v-belts and stock companion sheaves. Drive range is from 10 to 150 hp.

SVS/960

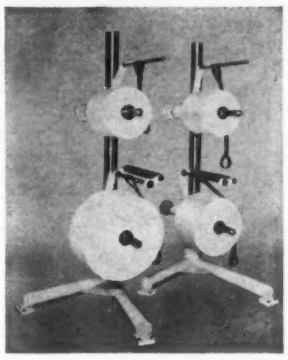
write for bulletin 6102

T. B. WOOD'S SONS COMPANY
CHAMBERSBURG, PENNSYLVANIA

ATLANTA • CAMBRIDGE • CHICAGO • CLEVELAND • DALLAS

▲ For more details circle NED-747 E on enclosed inquiry slip ▲

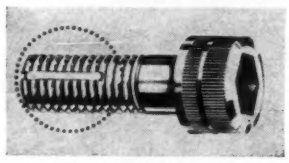
ROLL MATERIAL STAND
accommodates two or more rolls



Paper and other similar materials in rolls of varying widths and diameters are accommodated by this cantilever type multi-tier roll stand. It takes two or more rolls, one above the other, and may be used alone or in combination with other backstands. Open-end shafts for easy side loading are adjustable vertically and take most sizes of cores. Web is aligned by a handwheel while running. Support legs have leveling screws. • **Dietz Machine Works**, 20 W. Berkley St., Philadelphia 44, Pa.

▲ For more details circle NED-749 E on enclosed inquiry slip ▲

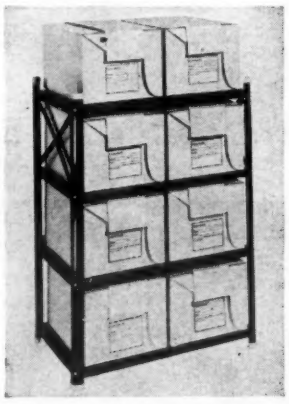
LOCKING SOCKET SCREWS
are re-usable and withstand heat



P-K Long-Lok socket screws use a long nylon insert to provide self-locking action which withstands shock and vibration. They are usable over a wide temperature range; withstand shock, impact, and most environmental conditions; and are re-usable. Since the nylon insert does not protrude beyond the threads, fastener will pass through all clearance holes. All sizes will be stocked. • **General American Transportation Co.**, Parker-Kalon Div., Clifton, N. J.

▲ For more details circle NED-750 E on enclosed inquiry slip ▲

STORAGE FILE
steel shelves hold dustproof cases



Inactive files, records, correspondence, and other materials are stored in an orderly manner in the Stor-A-Way file. The steel shelf unit and eight heavy duty dustproof cases hold as much material as a full-sized four-drawer file cabinet and take up less than 3 sq ft of floor space. Each 15 x 12 x 10-in. case takes standard or legal size files. Shelf unit measures 15 x 28 x 48 in. and is shipped knocked down. Price is $16.95. • **S. A. Hirsh Mfg. Co.**, 8051 Central Park Ave., Skokie, Ill.

▲ For more details circle NED-751 E on enclosed inquiry slip ▲

12 PAGES

on how glass might make your product look better or work better or both

Many have found they could put the unique sets of properties of glass to work improving the appearance and the performance of their products.

They got to this point through the sort of information contained in IZ-1, a bulletin newly revised to give you the latest information on how to design with glass.

It gives many applications already made, details the characteristics of the many different Corning glasses available, discusses design parameters and limitations, and gives some new data on new materials such as PYROCERAM® glass-ceramics, and some interesting porous glasses.

If you work on design or performance, you should have a copy of this bulletin. For a copy, write to 56 Crystal St., Corning, N. Y.

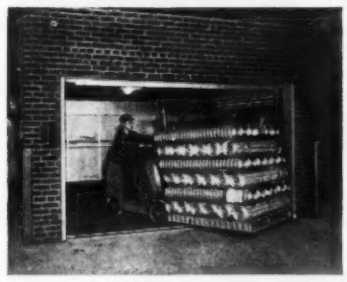
CORNING GLASS WORKS
CORNING MEANS RESEARCH IN GLASS

▲ For more details circle NED-752 E on enclosed inquiry slip ▲

Rotary®

Oildraulic® Elevators

Built for freight service



Capacities 100,000 lbs. or more

Cost less to install and operate

■ The Rotary Oildraulic Elevator is pushed up and supported from below by a powerful oil-hydraulic plunger that won't "give" with sudden, heavy loads. The hydraulic system assures consistently smooth, dependable performance. Accurate landing stops speed freight movement and prevent jarring shocks to materials handling equipment. Little maintenance is required . . . factory parts and service are available through franchised distributors everywhere. Write for complete information.

ROTARY LIFT COMPANY
DIVISION OF DOVER CORPORATION
1122 Kentucky, Memphis 2, Tennessee
CHATHAM, ONTARIO, CANADA

▲ For more details circle NED-753 E on enclosed inquiry slip ▲

Nutting shows you "HOW"...

the widest choice of floor trucks in the world can cut your costs!

Nutting makes over 1000 products, here are just 15 of them

For regular or "special" design floor trucks it pays to talk to Nutting *first*. Here's why: no other company makes more models, sizes or combinations of equipment than Nutting. Many times items which you may find listed as "specials" with other makes are regular equipment in Nutting's complete line. As a result you get "custom built" type trucks at production line prices from Nutting. You not only get overall lower prices; you also get the benefit of 68 years of experience, design "know-how" and modern manufacturing skills. To save valuable hours of your time and get the right equipment for your plant, talk to a Nutting representative *first*, for all your floor truck needs!

Dollar for dollar, feature for feature Nutting is your best floor truck buy. Write for your free copy of new Junior Catalog 59G.

MEMBER CASTER AND FLOOR TRUCK

Nutting TRUCK AND CASTER COMPANY
482 Division Street • Faribault 14, Minnesota

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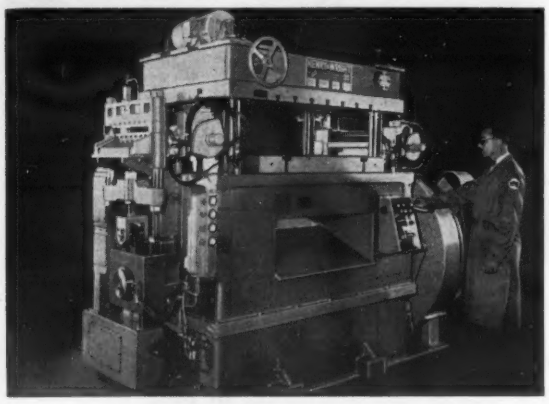

DOUBLE DIE-LIFE, DOUBLE PRODUCTION OUTPUT

with versatile Henry & Wright Double Crank Dieing Machines

► Form larger parts on lower tonnage machines. Greater precision with assured longer die life. About half the height of conventional straight side presses. Motor driven recirculating lubrication system. Main bearings are thermal-switch protected against overheating. Air-pressure roll feed. Dies can be changed from front or rear without touching roll feed. Handles off-center loading with minimum die wear.

The most versatile, automatic stamping and forming machine on the market HPM

THE HYDRAULIC PRESS MFG. COMPANY
A Division of Koehring Co., Mount Gilead, Ohio, U. S. A. H917

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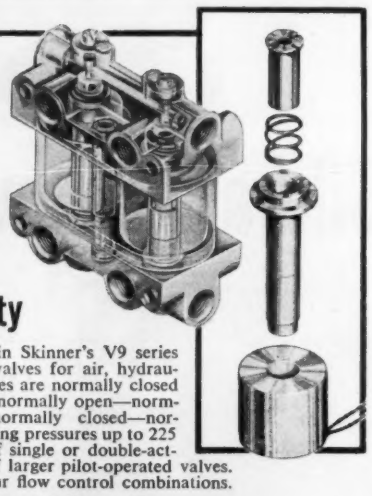
SKINNER 4-way solenoid valves built for accuracy, dependability



Three basic types in Skinner's V9 series of 4-way solenoid valves for air, hydraulic oil and inert gases are normally closed—normally closed, normally open—normally open, and normally closed—normally open. Operating pressures up to 225 PSI. For control of single or double-acting cylinders, or of larger pilot-operated valves. Your option of four flow control combinations.

- **Precise flow control**—by adjustable metering
- **Compact, direct acting**—two 3-way valves in one housing
- **Durable and corrosion resistant**—stainless steel internal parts
- **Leakproof, bubbletight sealing**—soft, synthetic inserts
- **Positive operation mounted in any position**—spring-loaded plungers
- **Underwriters approved**—wide selection of coils, voltages and frequencies
- **Wired from front or rear**—housing easily reversed
- **Adaptable to many uses**—optional porting arrangements

For complete information, contact a Skinner Distributor listed in the Yellow Pages or write us at Dep't. 435.

SKINNER ELECTRIC VALVES
THE CREST OF QUALITY
SKINNER ELECTRIC VALVE DIVISION, THE SKINNER CHUCK COMPANY • NEW BRITAIN, CONNECTICUT, U.S.A.

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304
MUELLER BRASS CO.
PORT HURON 37, MICHIGAN

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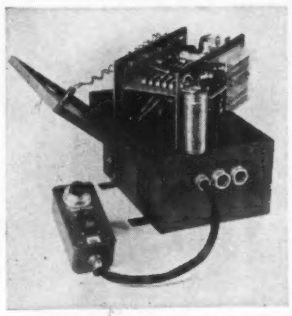
MOTOR SPEED CONTROL for DC shunt motors to 5 hp

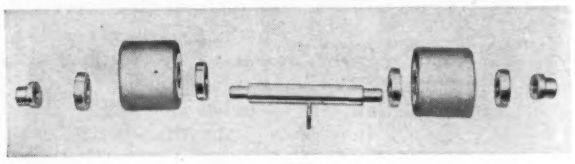


Constant speed regardless of the load variation is assured on any direct current shunt motor up to 5 hp by this motor speed control. It can be adapted for larger direct current motors, obtaining its power from any alternating current outlet. Applications include regulation of motor speed on lathes, shapers, and grinders. Silicon controlled rectifiers and magnetic triggers contribute to the small size of the unit. It requires no warmup time, and dials permit accurate, stepless speed control. • **ACF Industries, Inc.**, ACF Electronics Div., 11 Park Place, Paramus, N. J.

▲ For more details circle NED-757 E on enclosed inquiry slip ▲

WHEEL CONVERSION KITS for materials handling trucks

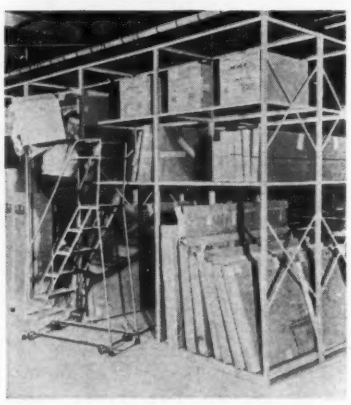
One wheel size can be adapted to different models of the same make of electric materials handling trucks by using any of a series of wheel conversion kits.



Whole fleets are thus standardized in their wheels and bearings. Each kit contains new axles, bearings, and four Macoflex polyurethane wheels, all designed to handle a higher load than the original equipment. High carrying capacity, abrasion resistance, and shock absorption features of the wheels allow one wheel size to fit any truck in a line. Kits are made for Automatic, Clark, Hyster, Lewis-Shepard, Moto-Truc, Towmotor, and Yale. • **Maco Industries, Inc.**, 6200 S. Ashland Ave., Chicago 36, Ill.

▲ For more details circle NED-758 E on enclosed inquiry slip ▲

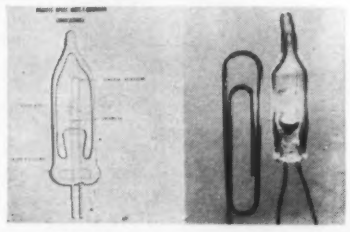
STORAGE RACK stores tubes, rods, other long items



Long, unwieldy items such as tubes and rods are stored off the plant floor in this storage rack constructed of standard steel shelving parts. It is available in either angle-type shelving which is bolted together, or Penco's T-Line shelving which uses a quick-fastening channel clip. Racks have gray or green baked enamel finishes. • **Alan Wood Steel Co.**, Penco Div., 200 Brower Ave., Oaks, Pa.

▲ For more details circle NED-759 E on enclosed inquiry slip ▲

SUBMINIATURE CIRCUIT BREAKER glows to show broken circuit



Measuring only 1¼ in. long by ¼-in. diameter, remote reset Mite-T-Breaker for low voltage electronic circuits features a built-in indicator light. The circuit breaker has a tiny filament mounted within its evacuated glass envelope. When circuit is overloaded, the bi-metal element opens, breaking the circuit. At the same time, a 200 ma current charges the filament causing it to glow. It holds the breaker open for as long as 100 hr or until overload is removed. Breaker operates at 6 to 24 v ac/dc and will be available in a range that holds from 1 to 5 amp and which trips at double the amperage. External heat of 200° F will also trip the breaker, making it useful in fire alarms. • **Sylvania Electric Products, Inc.**, 730 Third Ave., New York 17, N. Y.

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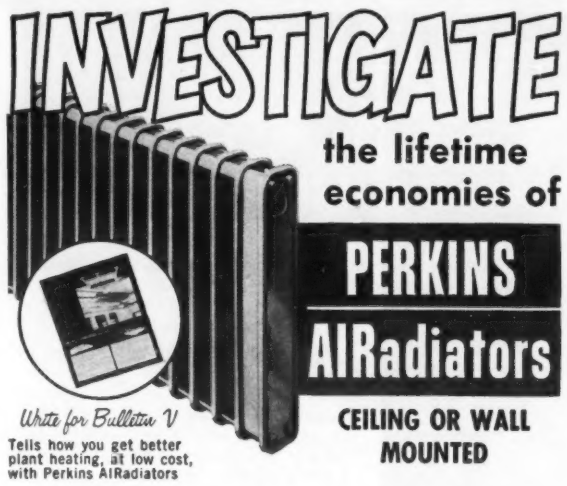
INVESTIGATE the lifetime economies of PERKINS AIRadiators

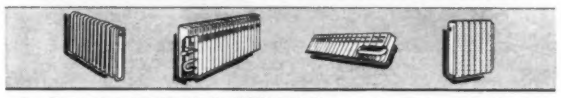


Write for Bulletin V
Tells how you get better plant heating, at low cost, with Perkins AIRadiators

CEILING OR WALL MOUNTED

Simplified mounting and reversible tapping locations assure economical installation on walls or ceilings, minimize piping costs. Perkins AIRadiators come in a full range of lengths and heights, all handling water or steam to 150 psi, all ruggedly built to last a plant's lifetime.

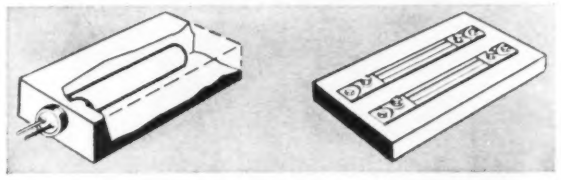
SHAW PERKINS MFG. CO.
Properly Designed Room Heat Distribution Equipment
201 E. CARSON ST., PITTSBURGH 19, PENNA.



▲ For more details circle NED-761 E on enclosed inquiry slip ▲

For your product or process

A complete line of General Electric heaters for surface heating applications



Ideal for products or processes requiring either "spot" heat or evenly distributed heat General Electric heaters help you:

Save heat: G-E heaters frequently may be cast into metal parts or inserted in holes so that heat is localized at the point of need. Heat losses around the sides and through pipes are minimized. Working conditions are more comfortable.

Reduce fire hazards: Safer, quicker electric heat eliminates danger of open flame; inconvenience of smoke and fumes.

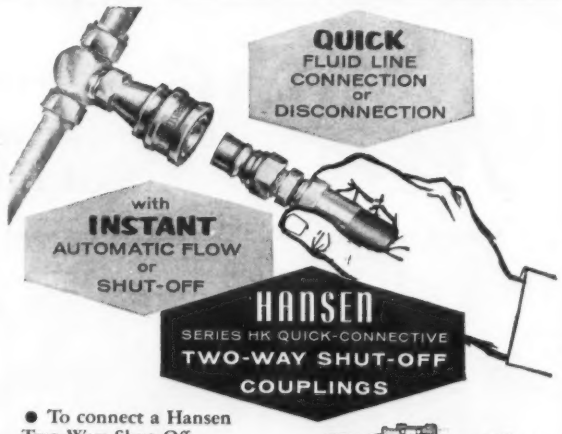
Get accurate control: To give you close heat regulation for changing conditions, precise thermostat controls are available.

FREE BULLETINS

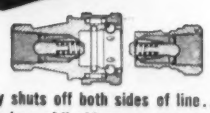
For more information, write Section 723-31, General Electric Company, Schenectady 5, N. Y., and ask for GEA-6146, SURFACE HEATING SELECTOR GUIDE, and GEC-1005, CATALOG OF GENERAL ELECTRIC HEATERS AND DEVICES.

GENERAL ELECTRIC

▲ For more details circle NED-762 E on enclosed inquiry slip ▲



• To connect a Hansen Two-Way Shut-Off Coupling, you merely pull back the sleeve on the Socket and push in the Plug. To disconnect, just pull back the sleeve. Available in brass or steel with female pipe thread connections from ⅛" to 1" inclusive.



Instantly shuts off both sides of line... prevents loss of liquid, gas or pressure.

Write for the Hansen Catalog . . .
a ready reference when you want information on couplings in a hurry.

Representatives in Principal Cities

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 35, OHIO

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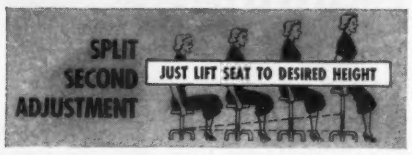
AJUSTRITE® CHAIRS AND STOOLS



DRAFTING CHAIR *Model RUC-2230*

- 2 inch upholstered seat
- full swivel seat
- 2-way adjustable backrest
- no soiled hands when adjusting seat
- Three sizes: 20" to 28"—24" to 32"—28" to 36"
- Gray, green, beige or brown finish

Also available with round metal or wood seat; or formed plywood or solid hardwood saddle seat.

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Use an AJUSTRITE chair or stool for 30 days without obligation. Prove to yourself the many advantages AJUSTRITE offers in comfort, utility and economy. Write today—we'll do the rest.

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32 Models for Factories • Schools • Laboratories • Hospitals • Offices

AJUSTO EQUIPMENT CO.
515 CONNEAUT ST. · BOWLING GREEN, OHIO

For more details circle NED-764 E on enclosed inquiry slip

New RIDGID® No. 141 Geared Threader

For 2½", 3", 3½", 4" Pipe and Conduit

Save Time...Cut Costs on all large threading jobs!

1. Only 1 Set of High Speed Dies threads 2½", 3", 3½" and 4" pipe and conduit. No extra die sets to change or lose! Die size selector plate sets quickly and locks at desired size. Easy adjustment for tapered, straight, over or under size threads.

2. Jam-Proof for safe threading by power or hand. Drive pinion kicks out automatically. Die head *Can't Jam* . . . avoids costly repairs and delay.

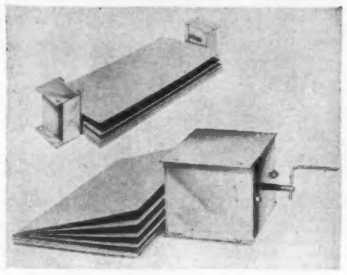
3. New Fast-Action, Cam-Type Workholder sets to size by quick turn of collar. Set screw holds work centered for perfect threads every time . . . adjustable for drip threads.

Your Supply House has them!
Order your new RIDGID No. 141 Threader today!

RIDGID®
The Ridge Tool Company, Elyria, Ohio, U.S.A.

For more details circle NED-765 E on enclosed inquiry slip

SHEET STEEL SEPARATOR facilities feeding and handling



Hand-crank adjustable Magnetool sheet steel separator will float stacks of sheet steel ranging in thickness from 32 to 7 gage. Units facilitate the feeding of round, square, or irregular shaped sheets into presses. A welded stainless steel case prevents loss of magnets or damage to adjusting mechanism. Each of 18 standard models is preset to handle a specific gage of metal. All are available individually or in pairs. • **Multifinish Mfg. Co.**, 26341 W. Eight Mile Rd., Detroit 40, Mich.

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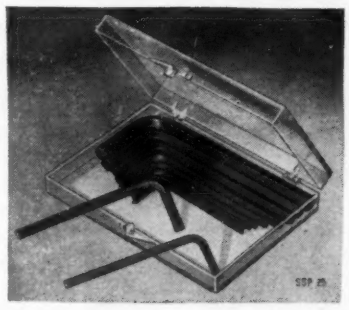
FOOT GUARD supplements safety shoe protection

Attached through the laces of steel toe safety shoes, the Alpenco Metagard offers supplemental protection of the metatarsal or instep area of the foot. The guard does not interfere with flexing of the ankle in walking, bending, stooping, or climbing. It fits left or right, high or low shoes of all sizes. Guard is made of stainless steel padded with neoprene sponge and has a web tightening strap. • **Albert W. Pendergast Safety Equipment Co.**, Tulip & Longshore Streets, Philadelphia 35, Pa.

For more details circle NED-767 E on enclosed inquiry slip

HEX KEYS for new cap screw sizes



Two hex keys for newly changed cap screw sizes 6 and 8 are now available as part of a set of eleven boxed in clear plastic container. The new keys are 7/64 and 9/64-in. sizes and fit the screws which were changed in dimensions to improve their usefulness. Keys are heat treated alloy tool steel for maximum strength without brittleness. All eleven in the set can be used for all types of hex socket screws. • **Set Screw & Mfg. Co.**, 130 Main St., Bartlett, Ill.

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FREE BOOK ON BEARINGS

Gives you complete data on the industry's most complete line of mounted roller bearings—Shafer.

This new Shafer catalog is compiled specifically to help you meet the increased responsibilities of building greater speed, higher load capacities and longer life into your equipment.

It is packed with factual information on roller bearing design—specifications, lubrication, seals and installation features that protect your equipment. Send for your free copy. CHAIN Belt Company, 4686 W. Greenfield Avenue, Milwaukee 1, Wis. In Canada: CHAIN Belt (Canada) Ltd., 1181 Sheppard Ave., East, Toronto.

SHAFER®
BEARINGS
CHAIN BELT

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Most Complete Line of Specialty Turrets on the Market!

. . . All Rockwood Turrets discharge FogFOAM, Solid FOAM Stream, WaterFOG, Solid Water Stream. You name it — Rockwood's got the turret —

- **Portable Type**—Off the truck and into action in seconds! Goes wherever a fire fighter can bring the proper hose line into action!
- **Direct Manual Control Type**—Gives fire fighters "out-in-the-open" control from cab roof!
- **Remote Manual Control Type**—Easily handled by man in driver's seat. Ideal for fast action!
- **Extended Manual Control Type**—Turret nozzles extend 10 to 20 feet above remote control station on deck or ground on standard units . . . greater remote extensions for special applications.
- **Remote Hydraulic Control Type** — Power-controlled from within the cab. Single and dual models. Widely used on air crash rescue fire-fighting trucks.

Get full details on the complete line of fire-fighting products. Write ROCKWOOD SPRINKLER COMPANY, Portable Fire Protection Division, 571 Harlow Street, Worcester 5, Massachusetts.

ROCKWOOD SPRINKLER COMPANY
A Division of The Gamewell Company
Engineers Water . . . to Cut Fire Losses
Distributors in all principal cities

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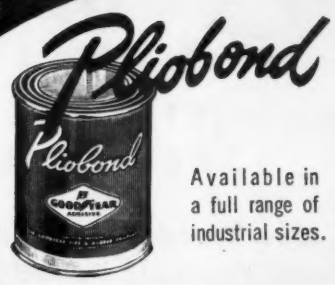
SEND FOR **FREE CATALOG** OF COMPLETE LINE OF

RUSCOE INDUSTRIAL ADHESIVES



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SAFE-T-GLUE
"T" FILM (Thermosetting Tape)
And a complete line of INDUSTRIAL CEMENTS

PLIOBOND, the all-purpose cement, "bonds anything to anything." It is strong, permanent and water, gas and oil resistant. It applies easily, sets quickly and withstands flexing.

W. J. RUSCOE CO.
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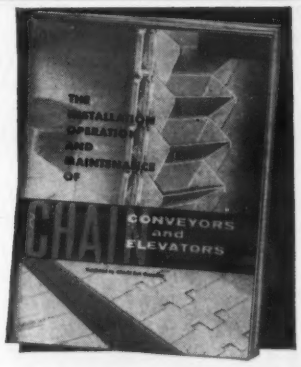
FREE MANUAL

How to extend conveyor life



Here are the facts on how to install, operate, maintain and extend the life of your conveyor chain.

These are the do's and don'ts the experts follow—the procedures that insure against costly down time and premature replacement. Send for FREE MANUAL today.

CHAIN BELT

CHAIN Belt Company 59-118
4686 W. Greenfield Ave., Milwaukee 1, Wis.
(In Canada: CHAIN Belt (Canada) Ltd., 1181 Sheppard Ave. East, Toronto)
☐ Please send free manual on care and maintenance of conveyor chains.
☐ Have a Rex Man call.
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Address _____
City _____ Zone ____ State ____

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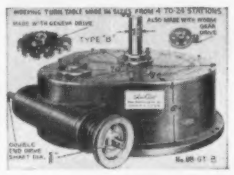
FOR 39 YEARS

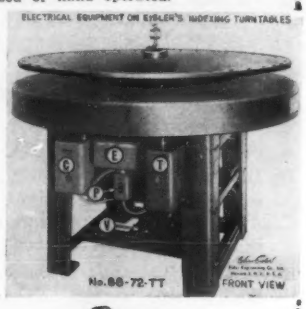
We supply any part or complete equipment . . . Special turntables made to order

INDEXING TURNTABLES
MORE THAN 100 DIFFERENT TYPES

- FOR WELDING • BRAZING • SOLDERING • SPRAYING
- GLASS INSULATOR MELTING AND GLASS GLAZING with rotating stations and indexing with barrel cam or Geneva gear action.
- For work transferring, tilting positions. . Motorized or hand operated.



Eisler Indexing Turntables are completely electrically controlled



AND CAMS MADE TO YOUR SPECS!

"Ask for catalog 88-57"

EISLER ENGINEERING CO., INC.
740 SO. 13th ST., NEWARK 3, N. J
Charles Eisler, Jr., President

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NEW!
MANHEIM VARIABLE SPEED BELT

Now Outdates Wood Block and Variable Speed V-Belts

MVS Belt replaces enclosed drive belts without disassembly. Its patented design sets a new standard in V-to-V drives because it is adjustable and is installed in minutes instead of hours. Uniform thickness and width guarantee constant power delivery with no cross-sectional distortion. Available in 26 widths from 1½" thru 5".

Write Today For Complete Information

MVS

MANHEIM
MANUFACTURING & BELTING COMPANY
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NAILS, RIVETS, SCREWS AND OTHER COLD-HEADED FASTENERS AND SPECIALTIES

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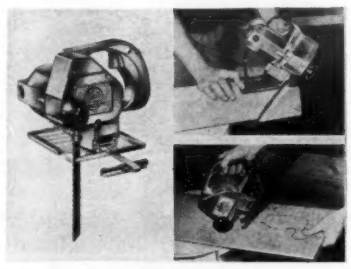
INTERCOM SYSTEM
provides 8-channel communication

Eight-channel selection is provided by the Select-O-Matic Port-A-Phone wireless intercom system, units of which are merely plugged in for operation. System allows four separate intercom conversations to be carried on at the same time. Both All-Master and Master-Staff systems are available. Features include automatic volume control, static eliminator control, and Band-Pass noise reduction circuits which allow messages to come through, even on noisy lines. • **Feiler Engineering & Mfg. Co.**, 8026 N. Monticello Ave., Skokie, Ill.

▲ For more details circle NED-776 E on enclosed inquiry slip ▲

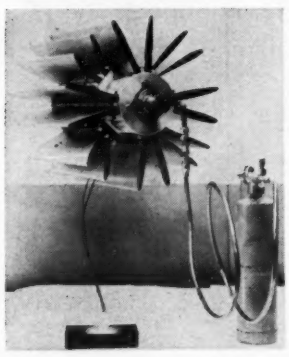
PORTABLE ELECTRIC JIG SAW
cuts 6-in. lumber as well as scrolls



Model 444 portable electric jig saw will cut 6-in. lumber as easily as it handles precision scroll work in thin materials. The 4.5-amp SpeedSaw is supplied with four wood-cutting blades, two blades for metal work, a rip guide with circle-cutting provision, and a protractor for angle cuts to 45 degrees. The 7½-in. blade with three teeth to the inch will cut 6 x 6-in. stock at 90 degrees or 4 x 4-in. stock at 45 degrees. A 2¾-in. blade with 10 teeth per inch handles precision scroll cuts. The 7½-lb saw produces 2400 strokes per minute and operates on 115 v ac or dc. Price is $49.95. • **Thor Power Tool Co.**, SpeedWay Div., 1421 Barnsdale Rd., LaGrange Park, Ill.

▲ For more details circle NED-777 E on enclosed inquiry slip ▲

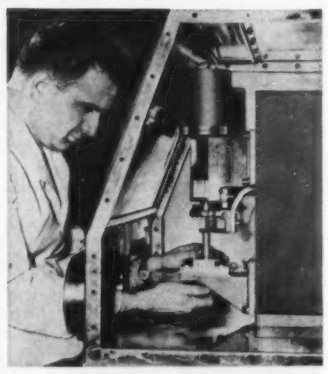
THERMOELECTRIC GENERATOR
produces 5 w from propane gas



This 10-lb, 1-ft high thermoelectric power generator will produce 5 w of power steadily and continuously for 1 year on $10 worth of propane gas. It is designed as a power source for radio communications, sea and air navigational aids, and industrial and scientific instrumentation in remote areas. Generator employs "thermopiles" of semiconductor elements to convert the heat of the burning propane into electricity. Burner utilizes more than 85 per cent of the fuel's heat content. Generators will be priced at about $500 in large-scale quantities. • **General Instrument Corp.**, Thermoelectric Div., 65 Gouverneur St., Newark 4, N. J.

▲ For more details circle NED-778 E on enclosed inquiry slip ▲

WELDING HEAD
installs in standard "dry box"

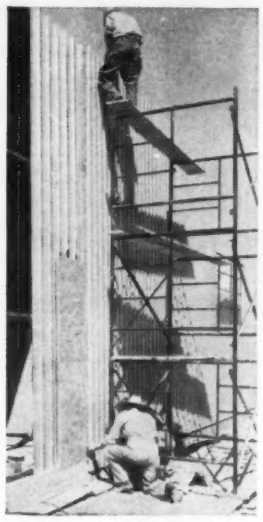


Compact, precision Raytheon M welding head measuring 23½ in. high by 13 in. deep by 7½ in. wide can be installed in a standard "dry box" in which transistors and other electronic components are assembled. Head is used with direct or alternating current welding power supplies and is rated 2700 w-sec dc or 50 kva ac. Air chamber combines low inertia with fast action and protects the work with a new cushion feature. Double-action cylinders make possible high production rates. Electrodes can be changed easily inside the dry box. Head mounts horizontally or vertically and adapts to dial feed or in-line feed for automated production. • **Raytheon Co.**, Commercial Apparatus & Systems Div., 87 S. Bedford St., Manchester, N. H.

▲ For more details circle NED-779 E on enclosed inquiry slip ▲

TRUSCON

INSULATED SIDEWALL PANELS
•
SPEED CONSTRUCTION
•
REDUCE COSTS



Truscon Insulated Sidewall Panels go up easy, go up fast. Constructed by sandwiching a layer of insulating material between two sheets of Truscon 24" FERROBORD® or galvanized ribbed sheeting. Painted or galvanized in widths of 2' 0", up to 40-ft. lengths. Write for information.

REPUBLIC STEEL
TRUSCON DIVISION
Youngstown 1, Ohio
NAMES YOU CAN BUILD ON

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PORTABLE HONES

SAVE MANY HOURS IN PRODUCTION, SALVAGE, JOB LOT, MAINTENANCE AND TOOL ROOM

More than 100,000 satisfied users testify to the utility of these "Tools of a Thousand Uses" for internal diameter work in nearly all materials.

Sunnen Portable Hones are guaranteed to produce geometrically round, straight bores—accurate within .0005"—with any desired cross-hatched, lubricant-retaining finish.

- CORRECTS MACHINING ERRORS
- EXACT SIZE CONTROL
- CONTROLLED SURFACE FINISH
- FASTEST STOCK REMOVAL
- POSITIVE ADJUSTMENT
- PORTABLE, YET RUGGED
- OPERATES IN ANY POSITION

Your Sunnen Field Engineer will be glad to help you solve your sizing problems at no obligation to you.

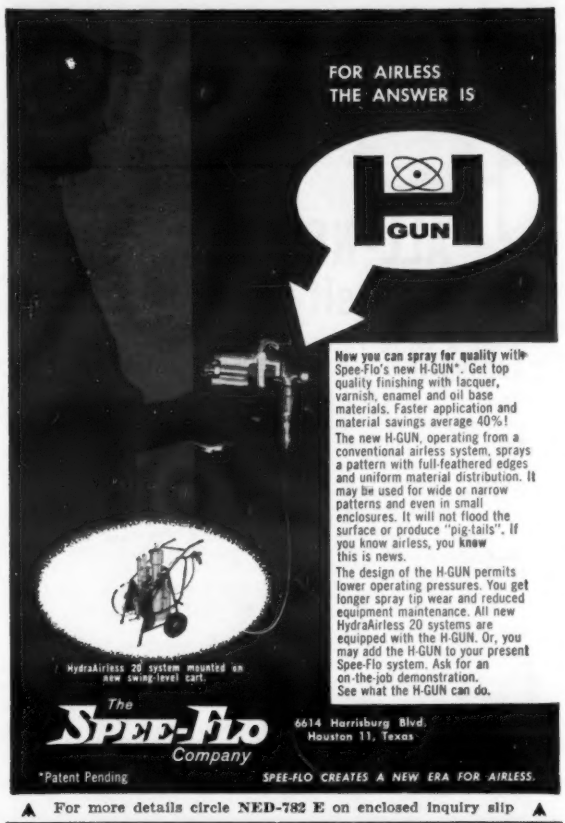
SN-75 Midget Hone	Range 1¾" to 2"
JN-95 Junior Hone	Range 2" to 2⅝"
AN-112 Standard Hone	Range 2½" to 7"
AN-812 Heavy-Duty Hone	Range 4¾" to 20½"

WRITE FOR FREE BOOKLET!

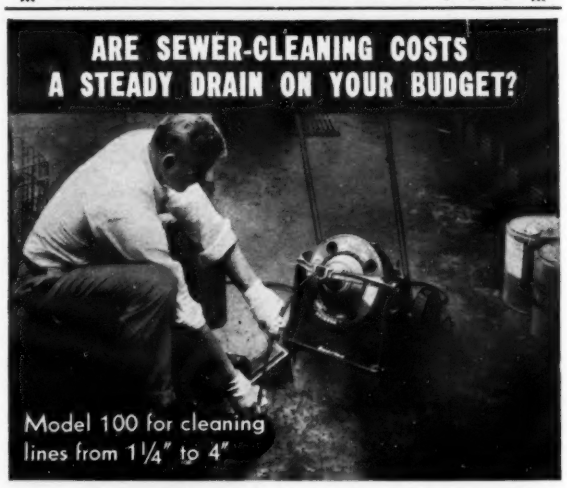
Find out how SUNNEN PORTABLE HONES can help you in your everyday shop work.

SUNNEN PRODUCTS COMPANY
HONING
7933 Manchester Ave. • St. Louis 17, Mo.
Canadian Factory: Chatham, Ontario
7269

▲ For more details circle NED-781 E on enclosed inquiry slip ▲



▲ For more details circle NED-782 E on enclosed inquiry slip ▲



More and more plants now find it profitable to own their own SPARTAN Drain and Sewer Cleaning equipment. **Savings pay for the equipment quickly, and it's always immediately available — no delays. SPARTAN moves to the job in seconds, can do the job in minutes. Any employee can operate a SPARTAN efficiently and safely, without special skills or training. Write today for the complete SPARTAN catalog showing sizes to fit your plant requirements.**

SPARTAN TOOL DIVISION
Conco Engineering Works, Inc. — Mendota, Illinois
AFFILIATES: Field Control Division — Barometric Draft Controls
Material Handling Division — Cranes, Hoists
Conco Building Products, Inc. — Brick, Tile, Stone

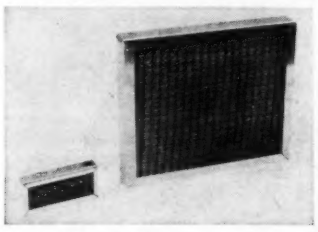
▲ For more details circle NED-783 E on enclosed inquiry slip ▲

STEEL FRAMING
simplifies panel wall erection

Cut-to-size, pre-punched Simplex steel partition framing, available in flush or standard ribbed design, facilitates erection of movable and reusable industrial and office partitions. Framing accommodates panels of any thickness or composition, enabling user to erect fire-proof asbestos walls, sound absorbent panels, or regular metal, glass, or wood partitions. Its highly corrosion resistant galvanized finish is treated to form an excellent paint bonding surface. • **S. L. Cooke Associates, Inc.**, Montowese Street, Branford, Conn.

▲ For more details circle NED-785 E on enclosed inquiry slip ▲

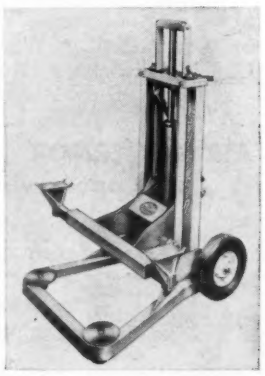
AIR FILTERS
protects miniature equipment



Any rectangular size, and any thickness from ½ to 4 in. can be made in the Airsan Type V-10 air filter for protecting miniaturized, ventilated electronic equipment against dust and entrained water and oil mist. The permanent filter requires no replacement, affords low initial resistance, and withstands severe shocks. Internal media cannot change or shift, and unit is unaffected by climatic or temperature changes. • **Air Filter Corp.**, 4682 W. Woolworth Ave., Milwaukee 18, Wis.

▲ For more details circle NED-786 E on enclosed inquiry slip ▲

HYDRAULIC END LIFT
has large semipneumatic rear tires

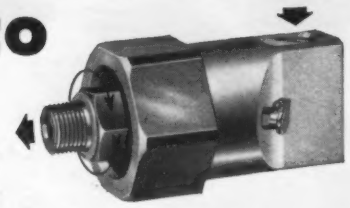


Large 10 x 2.75 in. semipneumatic rear tires permit easy movement of this Ausco hydraulic one-end lift over rough surfaces, such as crushed stone and broken concrete. Front end has been restyled to eliminate sharp corners. Lift has adjustable saddle width and a reach great enough to permit lifting cars and light trucks. Adapters are available for handling transmissions and for relieving weight on springs while vehicle is on service lift. • **Auto Specialties Mfg. Co.**, St. Joseph, Mich.

▲ For more details circle NED-787 E on enclosed inquiry slip ▲

For High Speed Rotating Connections on
SPINDLES • CHUCKS • CLUTCHES

BARCO
NEW TYPE D REVOLVING JOINT



UP TO 10,000 RPM!

Use Barco's new TYPE D Revolving Joints wherever you need high speed, low torque, leakproof rotary connections for air, hydraulic, or coolant lines on clutches, machine tools and other equipment:

- **LIGHT RUNNING!** Ball bearing design for low torque and minimum wear.
- **LEAKPROOF!** Thanks to Barco's static O-ring seal.
- **PRECISION-BUILT!** All parts machined to close tolerances. Parts interchangeable and easily renewable.
- **COMPACT, DURABLE!** Easy to install where space is limited. Overall length, 3 13/16". Built for rugged service.
- **WIDE SPEED RANGE!** Up to 10,000 RPM. For pressures to 300 psi (air) or 3000 psi (hydraulic). Economical TYPE E available for up to 2,500 RPM. SEND FOR CATALOG SHEET 308.

BARCO MANUFACTURING COMPANY
530F Hough Street • Barrington, Illinois

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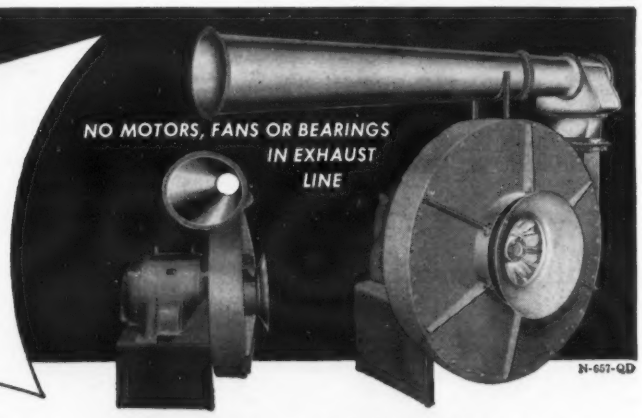
Thor
Everything you want in Air Hoists . . .
and more!

Put a 30 lb. air hoist to work for you which lifts over sixty times its own weight. Easily handled by one man. Infinitely variable speed control from dead slow to 50 ft. per minute lift, 96 ft. per minute descent (1000 lb. model). Pendent or pull-cord control. Hook or trolley mounting. Roller or link chain. Automatic disc brake. 500, 1000, 2000 lb. capacities. Other models to 3 ton capacity. Your Thor factory representative or distributor will demonstrate in your own plant. Thor Power Tool Company, Aurora, Illinois. Branches in all principal cities.

▲ For more details circle NED-789 E on enclosed inquiry slip ▲

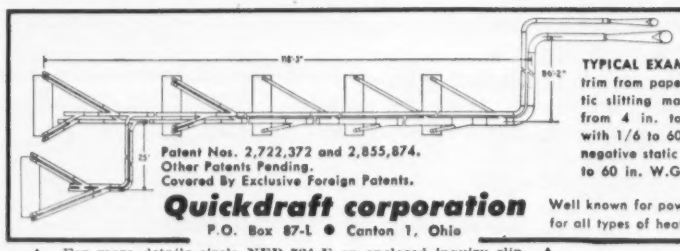
Now . . .
you can reduce bulk materials handling costs with *Quickdraft* high pressure exhausters



FOR MOVING:
Cement, Sand, Iron Oxide, Wheat, Corn, Salt, Limestone, Castor Beans, Knots, Blocks, Paper, Wool, Cotton, Oats, Rags, Rubber, Vegetables, Coal (Powdered), Shavings, Cork, Sawdust . . . **and any other materials that can be moved by air!**

IMPORTANT NOTICE
For resisting abrasive action, Quickdraft units can be rubber lined. For withstanding corrosive gases, all Quickdraft units are available in standard acid resisting vitreous enamel, No. 316 Stainless Steel, rigid plastics (PVC), and with plastic and Fiberglas coatings.

Time and maintenance savings usually pay for Quickdraft high-pressure exhausters in 6 to 18 months on materials handling jobs. Because material does not pass through blower, maintenance is negligible. Downtime for cleaning and replacing fans, motors and bearings is eliminated. Quickdraft units are also ideal for exhausting paint spray, abrasives, corrosive gases, noxious fumes and high temperatures. For Quickdraft engineering data on materials handling, industrial exhausting, heating plant venting, write today!



TYPICAL EXAMPLE: Ideal for moving trim from paper, cellophane and plastic slitting machines. (Models range from 4 in. to 30 in. diameter — with 1/6 to 600 H.P. motors — with negative static pressures from 1/4 in. to 60 in. W.G.)

Patent Nos. 2,722,372 and 2,855,874.
Other Patents Pending.
Covered By Exclusive Foreign Patents.

Quickdraft corporation
P.O. Box 87-L • Canton 1, Ohio

Well known for power draft units for all types of heating plants.

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FOSTORIA LOCALITES

cool, safe light... right where you need it!

- Ideal lamp for benches, machine tools, assembly lines.
- Instantly adjusts to any desired position.

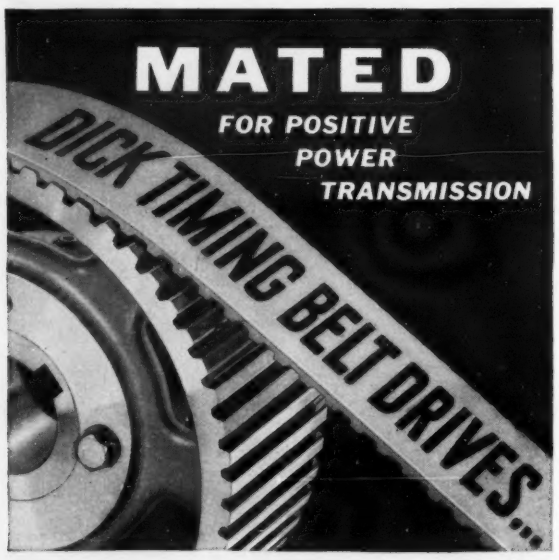
New, friction-collar-disc joints permit instant positioning . . . light stays put under severe vibration. Nylon Koolshield snaps over reflector . . . remains cool to the touch. Universal base, rugged construction, heavy duty socket, Levolier switch.

Write for catalog of Localites for every industrial need.

Available through wholesalers everywhere.

FOSTORIA CORPORATION
FOSTORIA, OHIO

▲ For more details circle **NED-790 E** on enclosed inquiry slip ▲



Money-Saving Answer to Many Drive Problems

Rugged nylon faced neoprene teeth silently grip the mating sprocket, and give the revolutionary power transmission action of Dick Timing Belt Drives. When designing a machine, or selecting a drive, check their advantages, including:

Positive, Non-Slip Transmission of Power—No Lubrication—Minimum Friction and Backlash—Constant Angular Velocity—Compact Design—Quiet, Lightweight—Wide Speed Range—Economical Operation.

Made in range from sub-fractional h.p. to heavy-duty drives of 600 h.p., and more. Belts reinforced with steel cable. Dick "QD" pulley hubs give a solid grip on the shaft, provide for easy installation and removal. Send coupon for engineering manual containing complete information.

R. & J. Dick COMPANY, inc.
Leaders in the Development and Manufacture of Power Transmission and Conveying Equipment
TOTOWA, NEW JERSEY • CLifford 6-6400
CHICAGO • LOS ANGELES • SAN FRANCISCO • SEATTLE • PORTLAND

ATTACH TO YOUR LETTERHEAD AND MAIL

R. & J. Dick Company, Inc.
Dept. 11E
Totowa, New Jersey

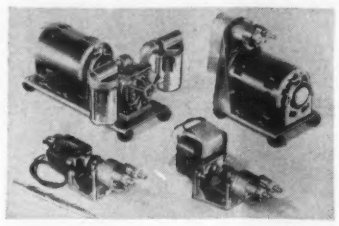
Yes . . . I would like my free copy of your new engineering manual on Dick Timing Belt Drives.

NAME.....

POSITION.....

▲ For more details circle **NED-791 E** on enclosed inquiry slip ▲

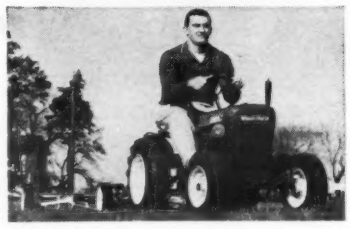
VACUUM PUMPS & COMPRESSORS
miniature units for close quarters



Automatic controls, instruments, business machines, and laboratory equipment can be served by these miniature oilless vacuum pumps and air compressors. Two basic types in a total of five rotary vane models have carbon vanes which lubricate themselves, providing oil-free air blast or exhaust. Model 0330 air pump weighs 11 oz less motor and has a rotor with a diameter smaller than a penny. Series wound, split phase, or shaded pole motors deliver from 0.67 to 0.35 cfm, 20 in. Hg vacuum, and 10 to 15 psi. Model 0630 for direct drive through a coupling delivers up to 0.6 cfm, up to 24 in. vacuum, or 25 psi. Motor is 1/20 or 1/12 hp. Model 1030 has a capacity up to 1 cfm, 25 in. vacuum, or 15 psi. Bare weight is 1 lb and weight with base and 1/20-hp motor is 6½ lb. • **Gast Mfg. Corp.**, Box 117, Benton Harbor, Mich.

▲ For more details circle **NED-792 E** on enclosed inquiry slip ▲

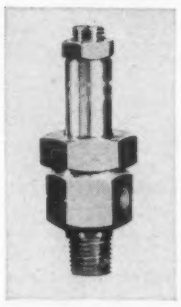
SMALL TRACTOR
has 22 attachments for various jobs



Twenty-two attachments enable the Wheel Horse small size tractor to do a variety of outdoor and indoor maintenance jobs. They include a three-gang reel mower which cuts lawns in a 5-ft swath, a 4-ft trailing rake, a front-mounted snowplow blade, a snowthrower and spreader-seeder, and an industrial brush. Tractor can be used to haul everything from cartons to cinders and affords high maneuverability, all-gear steering, and a mechanism for controlling the height of attached tools without leaving driver's seat. It has three speeds forward, plus reverse, and measures 5-ft long by 30 in. wide over-all. • **Wheel Horse Products, Inc.**, 51467 U. S. 31, South Bend 17, Ind.

▲ For more details circle **NED-793 E** on enclosed inquiry slip ▲

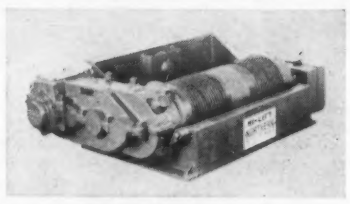
AIR GOVERNOR
port opens with snap action



Any compressed air operated equipment can be controlled with the Gov-N-Air air governor which features snap-action opening of port when setting pressure is reached. It is adaptable to pressures from 20 to 250 psi through use of an adjustable locking screw and set of easily changed springs. Cut-in and cut-out pressures range from 4-14 psi upwards for standard or special applications. Governor can be used to control continuous running compressors and for vehicle air brake systems. It will also actuate Wilkerson and other automatic tank drains which automatically expel moisture and sludge from compressor receiver tanks. Life is about 3 million uninterrupted cycles. • **Wilkerson Corp.**, 1633 W. Girard Ave., Englewood, Colo.

▲ For more details circle **NED-794 E** on enclosed inquiry slip ▲

MOUNTED HOIST UNITS
offered in base or platform types



Usable in component-assembled cranes, for freight or utility elevator hoisting service, and on special handling equipment, base or platform-mounted hoist units are made in 2 to 15-ton capacities. Standard wire rope is wound on drum which is grooved right and left to take full lift without overlap. Features include easily installed standard motors, cut hardened steel gears, antifriction bearings, welded frame, and accessible mechanism. Single, two, or variable speed motors for any current can be furnished. Disc brake and upper limit switch are standard. • **Northern Engineering Works**, 210 Chene St., Detroit 7, Mich.

▲ For more details circle **NED-795 E** on enclosed inquiry slip ▲

You can really cut costs with Standard's

ALL-NEW conveyor belt table

with a wide range of assembly-sorting-processing applications

This new Standard belt table provides more speed, more efficiency on all assembly, sorting or processing operations. Flat top extends all the way across the conveyor frame, and is adjustable sideways for quickly adapting unit to changes in production procedure. Nine standard belt widths — from 6" to 24". Six table widths — from 18" to 48". Heights adjustable from 16" to 79".

Powered by reliable Handidrive unit: constant or variable speed from 5 to 120 fpm. Length of belt table up to 75 feet.

Write Dept. K-5, STANDARD CONVEYOR COMPANY, General Offices, North St. Paul 9, Minnesota.

Sales and service in principal cities

Standard GRAVITY & POWER CONVEYORS

OVER 50 YEARS of conveyor experience

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...don't use makeshift dogs

BUY RED-E

5 TYPES TO CHOOSE FROM

GRINDER WORK HOLDING DRIVERS

GUARANTEE QUICK CHANGE-OVERS, POSITIVE GRIP, UNMARRED WORK.

- Steel for extra strength.
- Balanced to prevent chatter.
- Finger tip control on cam action—self-locking.
- Quick adjustments for workpiece dia.

When ordering, please specify Steel or Brass Cams or Screws on Cam Action type.

Ask your distributor, or write for prices and catalog.

CAM ACTION — Steel or brass cams & screws. Cap. 3/16" to 4".

REVERSIBLE — Forged steel. 2 jaw sizes on ea. Replaceable brass tips and plates. Cap. ¼" to 6".

UNIVERSAL — For plain or universals. Replaceable brass plates. Cap. ¼" to 2½".

CUTTER GRINDER — Permits close face plate work. Cap. ⅛" to 2½".

STRAIGHT TAIL — Replaceable brass plates and tips. Cap. ¼" to 6".

IMMEDIATE DELIVERY

CENTER and DOG Specialists Since 1908

RED-E-TOOLS **READY TOOL COMPANY**
184 Garfield Ave., Stratford, Conn.

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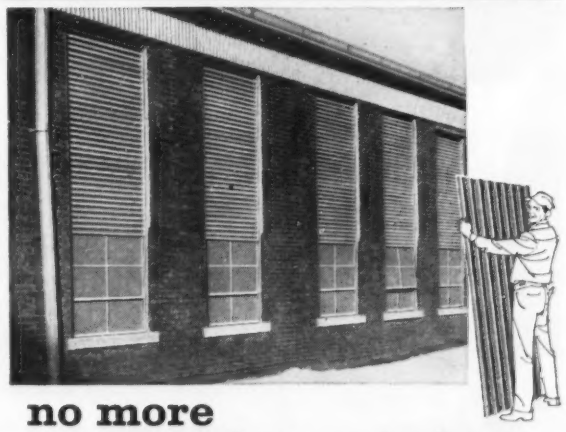

no more broken windows

Rockwell has glazed with Structoglas

Rockwell plans to cut maintenance costs with new Structoglas glazing in their Barberton, Ohio foundry.

Structoglas is *shatterproof reinforced plastic*—withstands shock, impact—eliminates glass breakage. Tinted to filter out glare without painting; easily installed with ordinary methods. Get details on *reducing maintenance costs* in your plant with Structoglas glazing. Write for Firestone and Rockwell Case Histories and Glazing Folder.

Get the valuable facts about Structoglas . . . today!

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STRUCTOGLAS DIVISION
International Molded Plastics, Inc., Dept. 506 Cleveland 9, Ohio

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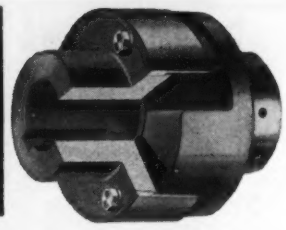
Lovejoy

TYPES C and H
Flexible Couplings
UP TO 4250 h. p.



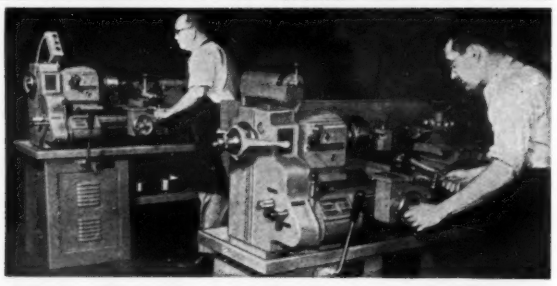
Installed and Aligned in Minutes — Just slide on shaft, bring jaws together and insert cushions. Twist bolts on outside collar and cushions are firmly retained.
Alignment is equally simple. No gauges required—just use a straight edge.

Eliminate Trouble and Service Calls — Lovejoy Couplings contain no intricate parts. All are in plain sight for rapid inspection. Lubrication is never required. Water, oil, dirt or weather will not decrease efficiency. The best care for Lovejoy Couplings is to *put 'em on shafts and let 'em alone.*

Outlast Equipment Life — Bodies are machined from electric steel or ductile iron castings. Load is transmitted by cushion compression, eliminating metal-to-metal contact and wear on metal parts and jaws.
Even the cushions last longer: (1) they are furnished in the material best suited to the service, (2) on non-reversing loads, their life can be doubled by reversing or advancing.

Lovejoy Flexible Couplings can be delivered immediately from stock. Request full information and ask for Catalog C-58. Give details or specifications for prompt quotation.

LOVEJOY FLEXIBLE COUPLING CO.
4803 W. LAKE STREET • CHICAGO 44, ILLINOIS
▲ For more details circle NED-799 E on enclosed inquiry slip ▲



"Clausing lathes really pay their way"

HERE'S PROOF OF PERFORMANCE: *"We wouldn't be without our Clausing 12¾" lathes. They're easy to set up and operate. And we especially like their heavy construction which enables us to take deeper cuts, and hold tolerances on repetitive operations. They really pay their way."*
Uehling Instrument Company
Paterson, New Jersey

This report is typical. Clausing lathes *do* lead their field in Precision, Production, Efficiency and Value. Here are a few reasons why:

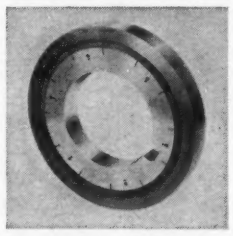
- Headstock, quick-change box and apron are totally enclosed . . . gears and shafts run in bath of oil
- Heavier throughout — "have more guts than most of our machines costing 3 or 4 times as much"
- Flame hardened bed ways
- Forged steel spindle, with hardened, ground L-00 nose
- "Zero Precision" Timken tapered roller bearings
- Verified precision — factory test report accompanies each lathe
- Choice of heavy-duty variable speed or 10-speed countershaft

See Clausing . . . check, feature for feature, dollar for dollar . . . before you buy *any* lathe of comparable size. See for yourself why Clausing is acclaimed *the* outstanding lathe value.

Write today for catalog and name of nearest dealer.

CLAUSING CLAUSING DIVISION
ATLAS PRESS DIVISION
5-113 N. PITCHER ST. • KALAMAZOO, MICHIGAN
▲ For more details circle NED-800 E on enclosed inquiry slip ▲

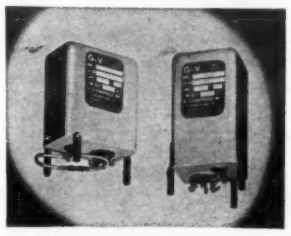
ROTARY KNIVES
for slitting and side trimming



Carbide rims on rotary slitting and side trimming knives permit machines to remain in continuous operation for long periods without shutdown for knife regrinding. Knives reportedly hold their cutting edges 10 to 15 times longer than steel knives when cutting light gage materials. They are suited for trimming or gang slitting of any light-gage ferrous or nonferrous material. A wide range of sizes is offered. • **Cowles Tool Co.**, 2086 W. 110th St., Cleveland 2, Ohio.

▲ For more details circle NED-802 E on enclosed inquiry slip ▲

TRANSISTORIZED TIMERS
time delays from 0.1 to 300 sec



Delay intervals of 401 and 404 transistorized, hermetically sealed timers are adjustable over a 10:1 range. Five overlapping ranges cover time delays from 0.1 to 300 sec. Timers are designed for nominal 28 v dc and, under constant operation, repeat to ±1 per cent. Double-pole double-throw contacts are rated for 100,000 operations at 3 amp, 30 v dc or 115 v ac. Units withstand 50-g, 11-millisecond shock and vibration of 20 g to 2000 cps, operating or nonoperating. Prices range from $145 to $400. • **G-V Controls Inc.**, Okner Parkway, Livingston, N. J.

▲ For more details circle NED-803 E on enclosed inquiry slip ▲

ANGLE VALVES
½ and ¾-in. sizes added to line

"Dropped seat" construction used in series of angle valves results in large flow capacities. The ½ and ¾-in. sizes have 10-psi flow rates of 38.7 and 50 gpm, respectively. Introduction of these valves extends the globe and angle valve line from ½ to 2 in. NPT for LP and other inert gas service. A leakproof flange ring stem seal which contributes to easy handwheel operation can be replaced while the valve is in operation. Ductile iron bodies resist cracking due to severe impact or thermal shock. Valve bonnet and seal cap are brass. A boss in the downstream side may be drilled and tapped for attachment of a ¼-in. hydrostatic relief or vent valve. • **Bastian-Blessing Co.**, 4201 W. Peterson Ave., Chicago 46, Ill.

▲ For more details circle NED-804 E on enclosed inquiry slip ▲

USE SILICONE LUBRICANTS TO STOP OIL DRIP IN OVEN HEAT

Protect your product finishes against dripping oil . . . reduce rejects, end waste with high-temperature Dow Corning Silicone Greases. Silicones "stay put" even in the hottest baking ovens . . . won't thin out, oxidize or gum up.

It's the money-saving way to lubricate bearings, bushings, cams, gears, valves and other moving parts at any temperature up to 450 F.

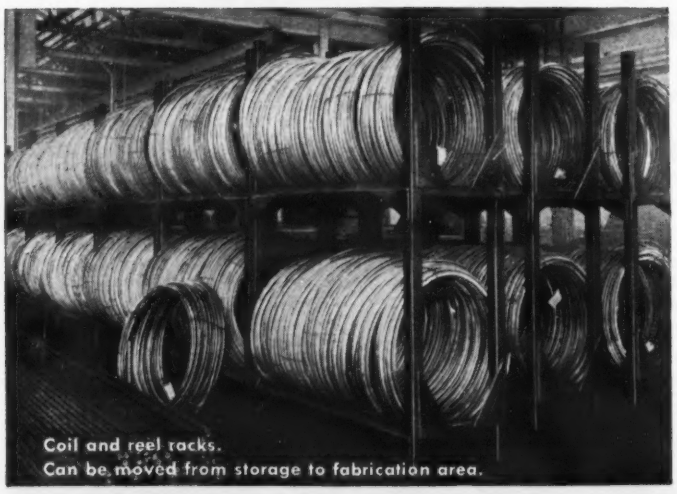
Send for FREE BOOKLET on how silicone greases can help you improve lubrication on a reduced maintenance schedule. Address
Dept. 5405a

First in silicones — Dow Corning CORPORATION MIDLAND, MICHIGAN

▲ For more details circle NED-805 E on enclosed inquiry slip ▲

EMI *your prime source for high quality racks*

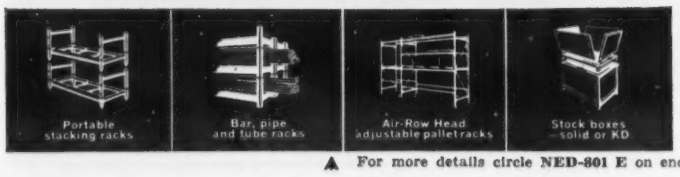
STACKING STORING SHIPPING



Coil and reel racks.
Can be moved from storage to fabrication area.

EMI has the most complete range of storage and material handling racks in the industry. Shown here are examples. If you have a special problem, we will design racks to your exact specifications.

METAL WORKING FACILITIES—EMI offers complete metal working facilities including tubular, structural and special shapes.



YOU CAN STACK OR SHIP *ANYTHING* ON EMI RACKS
Write for our complete catalog!

WELL STACKED

EQUIPMENT MFG. INC.
21550 HOOVER ROAD • DETROIT 5, MICHIGAN
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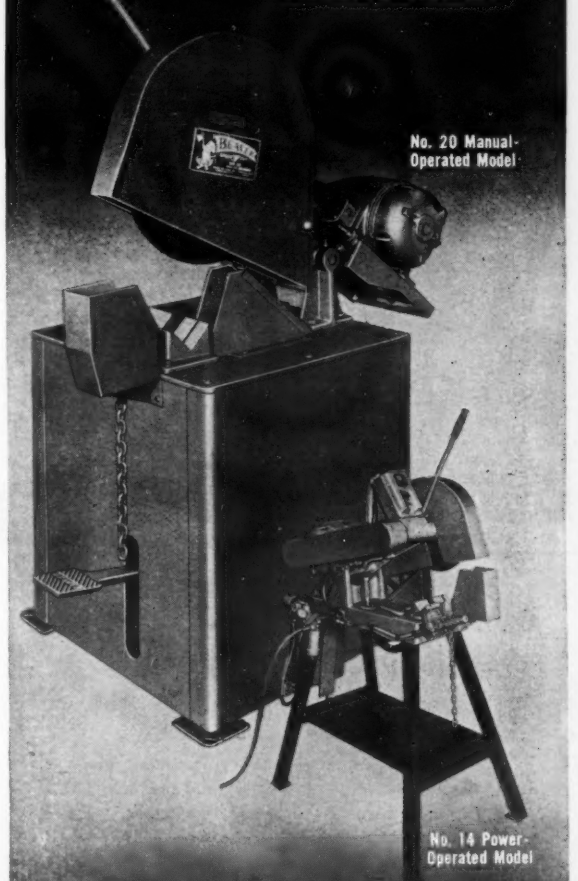
CUT TIME! CUT COSTS! CUT ALMOST ANYTHING IN SECONDS!

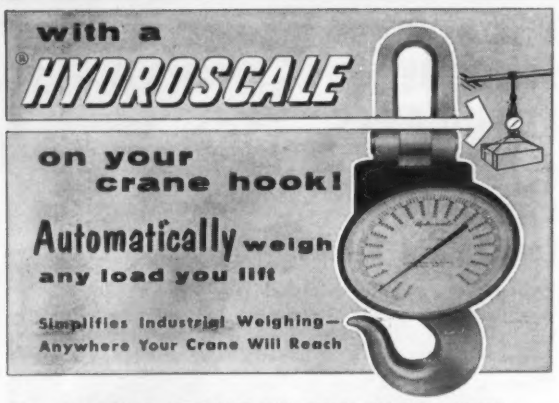


Speed Cut
Abrasive Cutting Machines
MANUAL OR POWER-OPERATED MODELS FOR WET, DRY OR ANY-ANGLE CUTTING!

Speed Cut — *Send for complete catalog and name of nearest distributor*

ABRASIVE MACHINE DIV.
BEAVER PIPE TOOLS, INC.
DANA AVE.
WARREN, OHIO

▲ For more details circle NED-806 E on enclosed inquiry slip ▲



ALL WEIGHING IS DONE ON YOUR CRANE HOOK
ENGINEERED AND BUILT FOR LONG SERVICE-LIFE
THERE ARE 110 MODELS IN THE COMPLETE LINE
TARE ADJUSTING KNOBS FOR NET LOAD READING
EASY-TO-READ DIALS AVAILABLE IN 3 SIZES

HYDROSCALES *guaranteed*
They are guaranteed to be free of defects in workmanship and materials, and to be accurate to ½ of 1% of the maximum dial capacity

HERE ARE SOME TYPICAL WEIGHING APPLICATIONS
Just a few of the many applications include — loading, unloading, check weighing, batching, foundry charging, and protecting your equipment from overloading.

HYDROWAY SCALES, INC.
"The world's largest producer of crane scales"
31288 Stephenson Highway • Royal Oak, Michigan
▲ For more details circle NED-807 E on enclosed inquiry slip ▲

▲ For more details circle NED-808 E on enclosed inquiry slip ▲

New Westinghouse FLOREG Valves for accurate flow control of gases and liquids

This new flow regulating valve accurately controls the rate at which a gas or liquid can flow in one direction through the circuit, yet allows free flow in the opposite direction. It can be used to time, to sequence or to co-ordinate the operation of the circuit.

The new valve has high capacity, is easy to adjust, self-cleaning, noiseless, lightweight, and compact. It is of top quality—made with aluminum, stainless steel, and plated steel parts to resist corrosion. Seals are oil resistant.

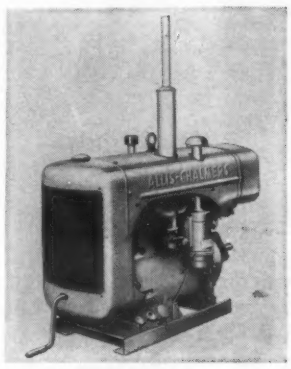
Working pressures range from 250 psi maximum pneumatic to 500 or 2000 psi maximum hydraulic. Temperatures: —40° to 200° F. Sizes: ¼", ⅜" and ½" N.P.T. **Prices start at $4.00.**

See the yellow pages under Cylinders for the name of your local distributor.

WESTINGHOUSE AIR BRAKE COMPANY
INDUSTRIAL PRODUCTS DIVISION
WILMERDING, PENNSYLVANIA — EMERYVILLE, CALIFORNIA

▲ For more details circle NED-809 E on enclosed inquiry slip ▲

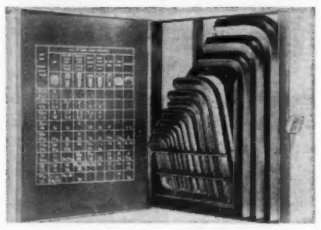
POWER UNIT
4-cycle engine develops 39 bhp



Compact G-138 power unit for use in construction, oil field, logging, irrigation, and industrial fields features a 4-cycle, 4-cylinder, 138-cu in. displacement gasoline and gas engine that develops 39 bhp at 1800 rpm. Unit operates economically on regular fuel with compression ratio of 7.75:1. It has a heavy-duty clutch power take-off, large flywheel, magneto ignition, and pressure lubrication. A 12-v distributor ignition and a heavy-duty magneto for use with natural gas are optional. Weight is 622 lb. • **Allis-Chalmers Mfg. Co.**, 918 S. 70th St., Milwaukee 1, Wis.

▲ For more details circle NED-810 E on enclosed inquiry slip ▲

HEX KEY KIT
has 0.28 to ⅝-in. hex keys

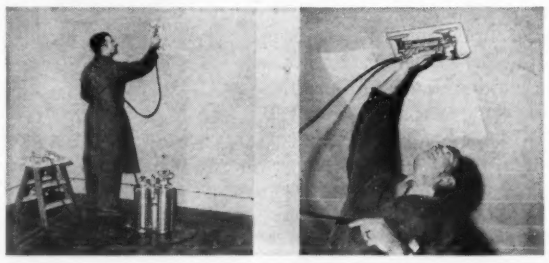


No. 667 Allen key kit provides 18 hex keys which range from 0.028 to ⅝-in. hex diameter, plus 7/64 and 9/64-in. sizes for No. 6 and 8 Series 60 cap screws. Keys are held in a compact metal box, inside cover of which has a table that shows the correct key size for each Allen socket screw product. A rack inside the box tilts keys outward for easy selection. • **Allen Mfg. Co.**, 133 Sheldon St., Hartford 1, Conn.

▲ For more details circle NED-811 E on enclosed inquiry slip ▲

WALL CLEANING MACHINE
quiet unit uses compressed air

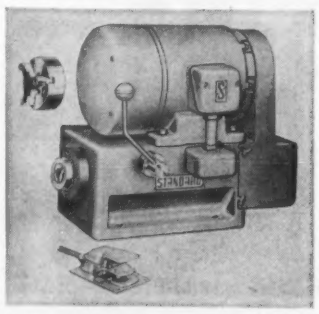
Walls and ceilings are easily cleaned without mess, drip, or streaking by the Wall-O-Matic air-powered wall cleaning machine. Noiseless in operation, it does



not require the use of dropcloths to protect furniture or rugs. Special cleaning solution is used for cleaning plaster, painted, brick, and stippled walls, plus many types of accoustical ceilings. Spray nozzle attachments clean hard-to-get-at places and irregular shaped objects. • **Central States Maintenance Co.**, 125 Marion, Oak Park, Ill.

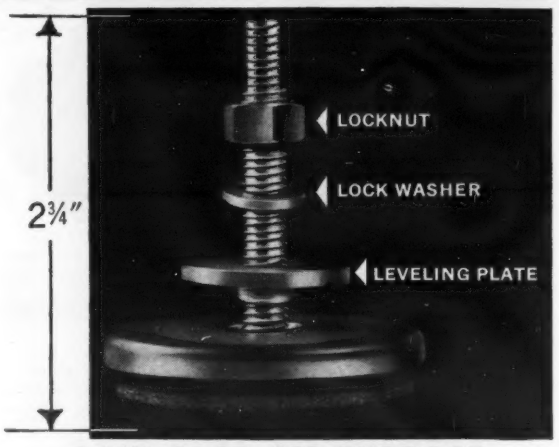
▲ For more details circle NED-812 E on enclosed inquiry slip ▲

BENCH MODEL SPEED LATHE
for continuous secondary operations



Wide range of spindle speeds adapts belt driven bench model speed lathe for continuous heavy duty secondary operations such as polishing, burnishing, lapping, spinning, reaming, deburring, and filing of small parts. Spindle nose accommodates up to 1-in. diameter round, ⅞-in. hex and ¾-in. square No. 5C draw-in collets. Lever control delivers simultaneous opening/closing of collet, closing/opening of motor circuit, with instant applying/releasing of brake. One-speed, as well as a wide range of two-speed and four-speed combinations can be selected in the 180 to 3600 rpm range. Expanding mandrels, special work holders, up to 6-in. diameter three-jaw lathe chuck, air collet, foot pedal control, and floor pedestal are available accessories. • **Standard Electrical Tool Co.**, 2488 River Rd., Cincinnati 4, Ohio.

▲ For more details circle NED-813 E on enclosed inquiry slip ▲



LOW-COST, ALL-PURPOSE Machine Mount
...Unisorb Level-Rite "200"

Ideal mount for light machine tools, air conditioners, business and laboratory machines, and similar equipment. Does 4 things at once . . .
• Speeds and simplifies installation, machine always mobile
• Controls vibration, protects floors, reduces noise, improves working conditions
• Improves machine performance, allows higher speeds
• Provides precise, positive leveling — free-floating screw-post compensates for uneven or pitched floors.

Ask for a money-back trial . . . or send for Unisorb Bulletin.

UNISORB 224 SOUTH STREET BOSTON 11, MASS.

▲ For more details circle NED-814 E on enclosed inquiry slip ▲

The new cutter line features a high helix angle, double back-off, and a right-hand spiral to produce more and smoother cuts between grinds, and a free-cutting, stronger tool.

Specially designed and precision-manufactured for die sinking and production milling, the new line is designed to include flats on the shanks for set screw type drivers on all of the end and side milling cutters. Write today for complete information to the Tomkins-Johnson Company, Jackson, Mich.

Ask for completely new cutter catalogue No. 259.

T-J TOMKINS-JOHNSON

▲ For more details circle NED-815 E on enclosed inquiry slip ▲

NEW! FROM CHARLES BOND . . .

FOR GREATER ECONOMY
LONGER MACHINE LIFE
BONDTRU® ALUMINUM INSULATED FLEXIBLE COUPLINGS

Here's the ideal coupling for light-duty applications up to 10 H.P. at 1800 R.P.M. Simplified construction of non-corrosive aluminum offers you low initial and maintenance costs plus a weight reduction of up to 60% of comparable iron couplings. No lubrication is required. And because of Bondtru's simplified three-part construction you get the benefits of quick and easy installation as well as reduced downtime for replacement and maintenance.

Bond's self-aligning feature protects motors and machines from wear caused by end-play, lateral and angular misalignment, for longer life.

Other features are:
• Non-conducting insert eliminates static and dynamic electricity and absorbs shock and torsional vibration.
• All-rounded edges promote operator safety.

This great new all-purpose coupling represents another advance stemming from Bond's continuing research for new and better power transmission products.

CHARLES BOND IS YOUR BEST SOURCE FOR A BASIC LINE OF POWER TRANSMISSION COMPONENTS!
SPEED REDUCERS — GEARS — SPROCKETS CHAINS — FLEXIBLE COUPLINGS — UNIVERSAL JOINTS COLLARS PILLOW BLOCKS

CHARLES BOND COMPANY
617-23 ARCH STREET • PHILADELPHIA 6, PENNSYLVANIA

▲ For more details circle NED-816 E on enclosed inquiry slip ▲

GRIP TREAD
MASTIPAVE

Pabco's Slide-Proof Floor Covering

Exclusive traction surface keeps your floors safe. Prevents slips, accidents. Rugged, easy to clean—and low in cost. Can be laid anywhere without surface preparation. Available in terra-cotta only. Other Mastipave products include regular Mastipave and new Deco Tread Mastipave in bright new colors. Write for free illustrated booklet with all the facts! Dept. NE

FREE ILLUSTRATED BOOKLET

Send for a free informative booklet with case histories and technical data. Pabco Mastipave, Fibreboard Paper Products Corp., 475 Brannan St., San Francisco

▲ For more details circle NED-817 E on enclosed inquiry slip ▲

A New Development in Open Gear Lubrication

PLASTIGEAR 815

OPEN GEARS RACKING DIPPER STICKS

Extremely adhesive, non-melting, waterproof and high film strength. Stable at all temperatures—will not drip off with heat or chip off with cold.

We believe Plastigear 815 is the best open gear or dipper stick lubricant manufactured to date. No solvents or pre-heating—use as is!

Want proof? Sample and information will be furnished on request.

THE WARREN REFINING & CHEMICAL CO.
CLEVELAND 2, OHIO

▲ For more details circle NED-818 E on enclosed inquiry slip ▲

Get Complete Ball Information In Accordance With New AFBMA* Standards

HOOVER WILL SEND THIS NEW CATALOG AT YOUR REQUEST

This new catalog details America's widest selection of balls in chrome, stainless and carbon steel, brass, bronze, monel, solar and special materials. Included are tables that show conversions from previous grades to newly established AFBMA grade designations.

This information enables you to specify readily and accurately the ball you require.

Hoover Offers America's Widest Selection of Standard Balls

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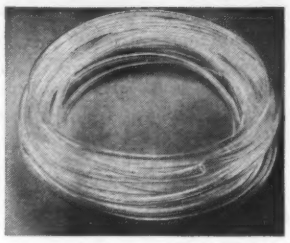
BALL AND BEARING COMPANY
Ball Manufacturing Facilities
COOLIDGE CORPORATION, MIDDLETOWN, OHIO
HOOVER BALL DIVISION, ANN ARBOR, MICHIGAN
STROM STEEL BALL COMPANY, ERWIN, TENNESSEE
*Anti-Friction Bearing Manufacturers Association

▲ For more details circle NED-819 E on enclosed inquiry slip ▲

New Processes and Materials

CLEAR VINYL TUBING
handles wide range of chemicals



Soft and flexible, even at 0° F, Vinyl/Tube grips tightly on glass or metal and forms readily to short radius curves without crimping. The clear vinyl plastic tubing handles a wide range of chemicals, including acids and alkalies. Its polished bore minimizes accumulation of minute particles and low surface tension permits relatively complete drainage. Seven sizes have 1/16-in. wall thickness. Price of 1/8-in. ID by 1/4-in. OD tube is $3.95 per standard package of 50 ft. • **Fisher Scientific Co.**, 376 Fisher Bldg., Pittsburgh 19, Pa.

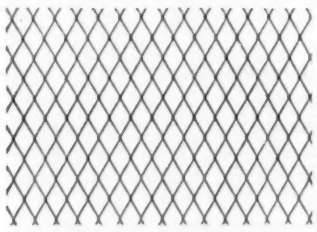
▲ For more details circle NED-820 E on enclosed inquiry slip ▲

ORGANIC COATINGS STRIPPER
for aluminum, copper, and steel

Epoxies, acrylics, alkyds, and baked enamels are effectively stripped from aluminum, copper, brass, steel, and stainless steel with Speedi-Strip No. 1010. Once coating bond is broken by the agent, coating flushes off cleanly under water spray. Stripper is used at room temperature, requires no heat, is nonflammable, and is easy to handle. • **ESBEC Corp.**, Industrial Chemical Div., Box 929, Stamford, Conn.

▲ For more details circle NED-821 E on enclosed inquiry slip ▲

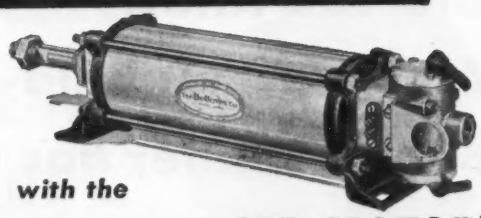
EXPANDED METALS
ductile materials in fine meshes



Dimensional stability and structural strength are properties of Micromesh expanded metals, offered in fine mesh sizes in coil or strip form. Dimensions are closely controlled. Various ductile materials, including precious metals, are available in thicknesses up to 0.025 in., 6 and 12-in. sheet widths, and strand widths from 0.003 to 0.055 in. Mesh dimensions range from 0.010 x 0.030 in. to 0.110 x 0.395 in. Catalytic screens, filters, tube grids, electric shields, strainers, and base material for silver and copper brazing are among uses. • **North American Cement Corp.**, Designers Metal Div., 650 Hoffman St., Hammond, Ind.

▲ For more details circle NED-822 E on enclosed inquiry slip ▲

LOW-COST AUTOMATION



with the
Bellows AIR MOTOR®

Automation need not be expensive! With the Bellows Air Motor — the *original* air cylinder with built-in valve and operating controls — your own men can automate existing machinery or build special-purpose high-production equipment that boosts production per man-hour, improves quality, reduces scrap, prolongs tool life. Bellows Air Motors provide all the motions necessary to control or operate machinery — push-pull, lift-lower, twist-turn — *quickly, economically, dependably.*

Write for free Bulletins BM-25 and ML-5
Address Dept. NED-560,
The Bellows Co., Akron 9, Ohio

639-C

The Bellows Co.
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)
AKRON 9, OHIO

OTHER INDUSTRIAL DIVISIONS OF IBEC: Sinclair-Collins Valve Co., Valvair, Akron, Ohio; V. D. Anderson Co., Cleveland, Ohio.

▲ For more details circle NED-823 E on enclosed inquiry slip ▲

ECON-O-VEYOR

HOW MANY OF THESE COST-CUTTING MATERIALS HANDLING IDEAS CAN YOU USE?

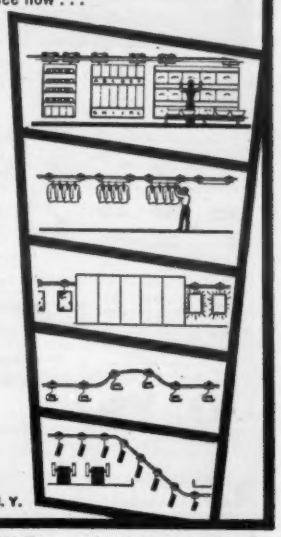
In installation after installation, the exclusive engineering features of the ECON-O-VEYOR OVERHEAD CONVEYOR means immediate savings in handling costs. Now ECON-O-VEYOR has put many of these applications in a new, illustrated manual—ideas you can probably use in many of your own operations to help slash handling costs. You'll see how . . .

A FOOD PACKER found the Econ-O-Veyor ideal to carry (and store) empty container cartons out of the way along the ceiling, transferring them to the carton packing point as needed.

A FOUNDRY uses an Econ-O-Veyor to carry castings from one operation to another on several floor levels.

A WHOLESALER has his Econ-O-Veyor carry racks and bins of merchandise past order fillers, who simply select items from inventory as racks come by.

Ideas such as these, in addition to illustrated explanations showing the best conveyor system for your needs, are all in the valuable new ECON-O-VEYOR POWER OVERHEAD MANUAL.



Free! send now for free, illustrated manual.

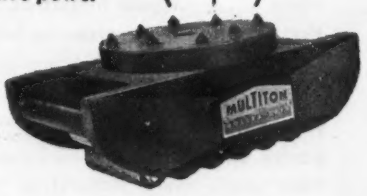
ECON-O-VEYOR
224 Glen Cove Ave., Glen Cove, N. Y.

▲ For more details circle NED-824 E on enclosed inquiry slip ▲

TWO MEN
from your regular plant crew
CAN MOVE YOUR HEAVIEST MACHINE

QUICKLY
EASILY
ECONOMICALLY

WITH . . .
MULTITON
ROLLER SKIDS
and suitable tractive power



The days of wasteful extravagant roller-bar moving are gone. With a set of MULTITON roller skids you can move any load up to 300 tons more quickly, more easily and at lower cost than by any method previously devised. The MULTITON roller skid lays its own track as it moves easily over smooth or uneven surfaces. . . . It will *swivel, turn, steer* and position heavy loads accurately in tight quarters.

LET US SHOW YOU how to slash moving costs and plant disruption. MULTITON skids will pay for themselves in ONE MOVE, and save thousands in the course of a year. Write for free catalog and 12-page booklet on *Modern Methods of Heavy Equipment Handling and Hauling.* A demonstration in your plant can be arranged —at no cost, of course. P.S. Ask about the Multiton Junior Kit for moving loads up to 6000 lbs.

STOKVIS MULTITON CORP.
Dept. NED-5, 18 Secatoag Ave.
Port Washington, N. Y.

▲ For more details circle NED-825 E on enclosed inquiry slip ▲

FREE! Handy, 14" x 20" wall chart of Dresser pipe joining and repair products. States dimensions, pictures styles, lets you select what you want at a glance. Write for it today.
DRESSER MANUFACTURING DIVISION, 69 FISHER AVE., BRADFORD, PA.

▲ For more details circle NED-832 E on enclosed inquiry slip ▲

THIS FREE HANDBOOK MAKES WAREHOUSE PLANNING EASY

Here . . . at your fingertips . . . are the dollar-and-space-saving facts about handling unit loads in narrow aisles. Learn how you can store more goods in your present warehouse. Increase capacity as much as 50% . . . make new floor space more productive with narrow aisles. This new 24 page reference book contains complete specifications of Raymond hydraulic and electric pallet handling trucks for every size and type of operation. Profusely illustrated. Send for your FREE copy today!

RAYMOND

The RAYMOND CORPORATION
4183 Madison St., Greene, N. Y.

FREE . . . "Pallet Handling in Narrow RAYMOND Aisles"

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ STATE _____

▲ For more details circle NED-833 E on enclosed inquiry slip ▲

New Literature and Catalogs

Steel Tubing

Copperweld Steel Co., Ohio Seamless Tube Div.—Aircraft seamless, electric resistance welded, and mechanical seamless steel tubing is available from this company, according to 8-page illustrated folder. Fabricating and forging of tubing is also detailed. Given are specifications of available materials and sizes, plus application data.

▲ For more details circle NED-834 E on enclosed inquiry slip ▲

Automatic Flow Control Valve

Hays Mfg. Co., Automatic Controls Div.—Flow rates from 0.2 to 50 gpm are available in Mesurflo line of low pressure drop automatic flow control valves. Subject of 6-page illustrated folder, the valve is offered in six pipe sizes. It automatically compensates for pressure surge and pressure drop to maintain a constant flow.

▲ For more details circle NED-835 E on enclosed inquiry slip ▲

Contract Metal Forming Service

Cyril Bath Co.—Plant facilities which are available on a contract basis for radial draw, stretch, and compression forming of metal products are fully outlined in 16-page bulletin "Contract Forming." Typical components ranging in size from 1 to 50 ft long formed strips, sheets, tubes, extrusions, and preformed sections are shown. Machines and techniques are described.

▲ For more details circle NED-836 E on enclosed inquiry slip ▲

Telephone Type Relays

Magnecraft Electric Co.—Hermetically sealed, microminiature crystal can, plug-in, snap-action, and time delay are but a few of the hundreds of telephone type relays described in 24-page Catalog 160. Specs, circuit diagrams, and performance data aid in selection and application of these relays.

▲ For more details circle NED-837 E on enclosed inquiry slip ▲

Ultrasonic Cleaning & Rustproofing

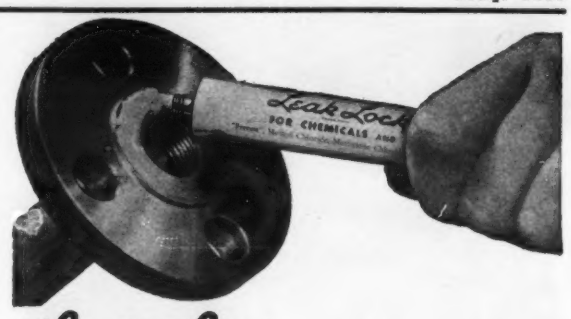
Rust-Lick, Inc.—Types of ultrasonic and rustproofing liquids for specific applications are clearly explained in 10-page manual. How and where to use these compounds are covered. Properties of cleaning and rustproofing liquids are given.

▲ For more details circle NED-838 E on enclosed inquiry slip ▲

Power Supply Handbook

Sorenson & Co. — Specification data on over 400 models of power supplies are tabulated in 32-page handbook and catalog. Information is given on regulated dc, variable frequency, high voltage, and miniaturized power supplies; inverters and converters; and ac line voltage regulators.

▲ For more details circle NED-839 E on enclosed inquiry slip ▲



Leak Lock STOPS LEAKS where other compounds fail!

Here's a simple, economical solution to many troublesome leaking joint problems. Leak Lock holds LP, gasoline, oils, gases, petro-chemicals and refrigerants that eat through ordinary joint compounds. Its remarkably tough, highly adhesive, remains flexible indefinitely . . . the joint compound that stretches rather than breaks. Years of use have established its advantages in stopping wasteful or hazardous leaks in the petroleum, chemical, atomic energy, electronic, refrigeration and other fields.

Listed by Underwriters' Laboratories for Gas and Oil Equipment List: Also for Propane and Butane.

For free sample, write on letterhead giving us the name of your local Industrial Distributor.

HIGHSIDE CHEMICALS INCORPORATED
14 Colfax Avenue • Clifton, N. J.

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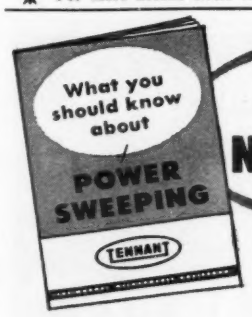

FREE!
New Booklet!

"What you should know about POWER SWEEPING"

A "must" for modern maintenance, this new 12-page booklet tells how vacuumized* power sweeping has revolutionized maintenance methods. Gives concise, practical answers to many sweeping questions:

- How soon will a power sweeper pay for itself?
- How to estimate the money you will save?
- How do you get the most from your power sweeper?
- What type and size of sweeper is best for you?
- What about power sweeping and nuclear fallout?

Plus: Typical in-use photos . . . diagrams of soilage pickup systems. Basic facts on typical sweeper performance . . . power used . . . accessories available. *Write today! Free!*

*Developed and introduced by the G. H. Tennant Co. in 1947.

OUR 90th YEAR TENNANT

Industry's Most Widely Used **POWER SWEEPERS**

G. H. TENNANT COMPANY • 715E N. LILAC DRIVE • MINNEAPOLIS 22, MINNESOTA

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Did You Know A Wallace-Tubela Bench Bender *has this size range?*

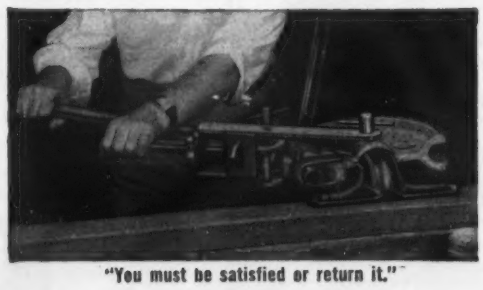
½" ¾" 1" 1¼" 1½"

Here is an ideal bench bender for any shop and on-the-job applications. It is a product of our British associates. Direct lever operation bends soft copper and aluminum tubing up to 1½" O.D. and annealed steel tube up to 1" O.D. Auxiliary ratchet multiplies power so much that 1½" O.D. steel tube and hard copper and aluminum can be bent by one man instead of two.

STANDARD DIES INCLUDE:
½" O.D. x 1-11/16" C.L.R. 1" O.D. x 3½" C.L.R.
¾" O.D. x 2⅝" C.L.R. 1¼" O.D. x 4¾" C.L.R.
1½" O.D. x 5¼" C.L.R.

Unbelievably Low Priced Only **$199.50**

Your Wallace-Tubela could be the "buy of the year." ORDER AT ONCE—Phone Ed Petack—Call COLLECT BUckingham 1-7000 Or Send For Folder. Above machine too small for your work? We also make a complete line of Wallace Ram, Roll and Rotary Benders.



"You must be satisfied or return it."

Wallace Supplies Mfg. Co. 1312 W. WOLFRAM STREET • CHICAGO 13, ILLINOIS

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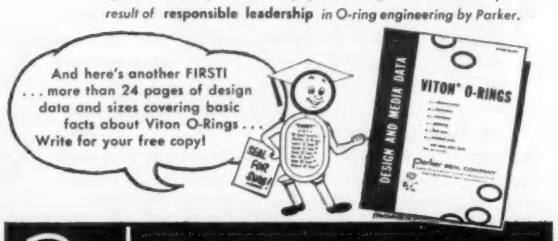
NOW VITON O-RINGS IN ALL A.N. (A.R.P.) STANDARD SIZES!

One of the first to embark upon a research and development program for Viton O-rings, Parker Seal Company now makes another significant advance in this versatile high temperature material by offering Viton O-rings in all A.N. or A.R.P. standard sizes. This means faster delivery and greater economy for all these popular O-ring sizes. It's another plus result of **responsible leadership** in O-ring engineering by Parker.



Parker SEAL COMPANY
Culver City, California and Cleveland, Ohio
A DIVISION OF PARKER-HANNIFIN CORPORATION

▲ For more details circle **NED-843 E** on enclosed inquiry slip ▲

FIRST with *field-proved* All-Transistor Control...

NEW Louis Allis SELECT-A-SPEDE® DRIVE

Here's a high-gain, high-performance d-c drive that offers you superior speed and tension control plus unmatched flexibility for changing requirements, and low upkeep.

A twist of the dial gives you stepless speed adjustment from zero to full load in either direction. Regulation stays constant because transistors — unlike tubes — do not deteriorate ... last 15 or more years.

You slash downtime because the 6" x 6" transistor control panels can be added or removed by your electrician right in your shop, as needed. The printed low-voltage circuits are virtually trouble-free and can be quickly and easily replaced from low-cost stocks.

Select-A-Spede: 5 to 400 hp, and your choice of motor enclosures and other modifications. Write for Bulletin 2001 to The Louis Allis Co., 436 E. Stewart St., Milwaukee 1, Wis.

LOUIS ALLIS

SA-207

▲ For more details circle **NED-844 E** on enclosed inquiry slip ▲

FREE to Design Engineers

New Bulletin 200

Designing WORM GEARS

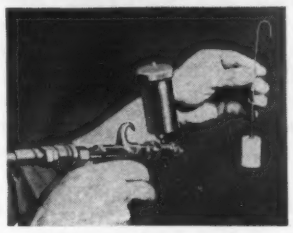
24 pages of technical data and formulae with step-by-step instructions on the design and application of Cone-Drive double-enveloping worm gearing.

CONE-DRIVE GEARS
DIVISION MICHIGAN TOOL COMPANY
7171 E. McNichols Rd. • Detroit 12, Michigan

▲ For more details circle **NED-845 E** on enclosed inquiry slip ▲

New Processes & Materials

PLASTIC SPRAY PROCESS coats parts with Teflon, Kel-F



Teflon or Kel-F plastics are sprayed on metal parts, regardless of complexity of configurations, by the Fluorocoating spray coating process. Parts are protected against temperatures from −350 to 450° F as well as most known chemicals and acids by the impervious plastic coating. Elimination of abrasion and corrosion, as well as resistance to 2000 v after processing is assured. Fluorocoatings are available in several colors and finishes. • **Fluorocarbon Co.**, 1206 E. Ash Ave., Fullerton, Calif.

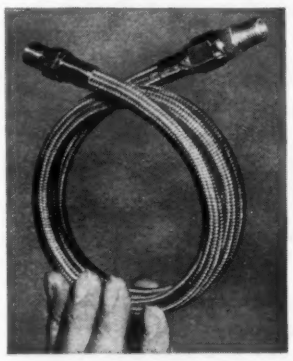
▲ For more details circle **NED-846 E** on enclosed inquiry slip ▲

GENERAL PURPOSE ADHESIVE clear, pressure-sensitive type

Fabric, paper, wood, plastic, glass, metals, and many other materials can be effectively bonded with clear, pressure-sensitive Rez-N-Glue No. 378. The natural rubber base adhesive is supplied in heavy syrup viscosity and is applied with brush, roller, or knife for fast drying use. Covering with a release paper permits deferred use. Adhesive is supplied in 1 qt and 1, 5, and 55-gal containers. One gallon will prepare about 200 sq ft. • **Schwartz Chemical Co.**, 50-01 Second St., Long Island City 1, N. Y.

▲ For more details circle **NED-847 E** on enclosed inquiry slip ▲

FLEXIBLE STEAM HOSE offered in ¼ to 1-in. sizes



Resistance to deterioration, abrasion, scaling, blow-off, and leakage is built into White Line flexible steam hose. It has a bronze wire reinforcing braid, swaged fittings, and an extruded Teflon inner core which will not embrittle, work harden, or deform after continued flexing at 400° F. Male or female unions, elbows, or straight tube fittings are swaged on the hose by a small hydraulic press supplied by the manufacturer, or by a hand arbor. Hose is offered in ¼ to 1-in. sizes in assembled lengths or in lengths with separate fittings for assembly by the user. Burst pressures are about six times the maximum recommended operating pressure. • **Titeflex Inc.**, Hendee Street, Springfield 4, Mass.

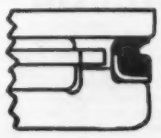
▲ For more details circle **NED-848 E** on enclosed inquiry slip ▲

SEALED FOR SERVICE

RBC® PITCHLIGN® ROLLER BEARINGS with SEALS

Why sacrifice bearing performance under conditions that require protection from foreign elements.

The same dependable performance of the RBC PITCHLIGN is yours with the added protection of molded synthetic rubber seals. Available in a standard series of Sealed Pitchlign Roller Bearings.



Positive seats provided by shoulders separate seals from all revolving parts. Permits free, no bind roller-cage operation for top efficiency.

Seals can be mounted for retention of lubricant or exclusion of foreign matter.

More details?... Write for Bulletin SF-82.

RBC ROLLER BEARING COMPANY OF AMERICA
Sullivan Way • West Trenton, N. J.

▲ For more details circle **NED-849 E** on enclosed inquiry slip ▲

THE VER-T-RACK

THE ACME OF VERSATILITY

- ELIMINATES MATERIAL DAMAGE
- REDUCES WORKER FATIGUE
- MAXIMUM EFFICIENCY AT MINIMUM COST

HEIGHT—65½" LENGTH — 35"
WIDTH— 24" CAPACITY 2000 lbs.

- EXPEDITES MATERIALS UP TO 60% FASTER
- SAVES MAN HOURS
- SAVES FLOOR SPACE
- GREATER SAFETY FACTOR

Equipped with 6" roller bearing steel wheel casters

VER-T-RACK can be handled with lift truck.
Trays are adjustable on VER-T-RACK

PRICE — $49.50 Varied Accessories Extra

Slightly higher west of the Rockies Write today for descriptive literature

The Vince BASNIK COMPANY
MATERIAL HANDLING DIVISION
• 2020 CENTER STREET • CLEVELAND 13, OHIO

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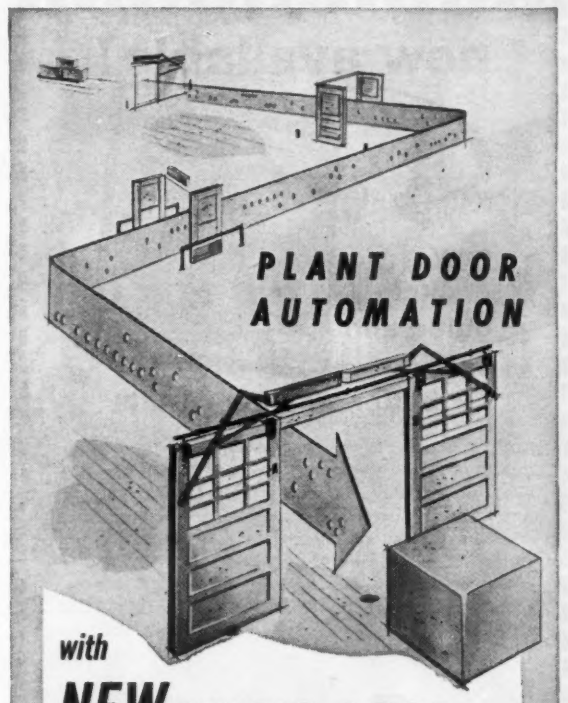

with

NEW MAGIC-DOOR MHO OPERATORS

*Low-cost investment ... 67% return each year!**

Get maximum productivity at minimum cost by speeding materials flow throughout your plant. You can do it by extending automation to your plant doors that swing, slide or fold, with MAGIC-DOOR MHO Pneumatic Operators. Full powered for both opening and closing, MHO Operators will open and close your doors automatically and bring you BIG returns each year through these benefits: **controlled traffic flow; faster materials handling; reduced door and equipment damage; less spillage and cargo damage; conservation of warm and cool conditioned air, and improved working conditions and employee morale.**

Write for free data sheets and a folder on the MAGIC-DOOR MHO (Materials Handling Operators) line.

**A recent study of* MAGIC-DOOR *equipment in automatic operation of double swinging plant doors revealed a 67% return on the investment each year! Further information on request.*

STANLEY HARDWARE
Division of The Stanley Works
MAGIC-DOOR® SALES
Dept. E, 58 Lake Street, New Britain, Connecticut

STANLEY
REG. U. S. PAT. OFF.

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The tough ones always go to The Sound Engineering People (Burgess-Manning Co., 9227 Sovereign Row, Dallas). And in more than 50 years' research and engineering for all types of industries, we've never failed to solve a noise problem! How can we help you?

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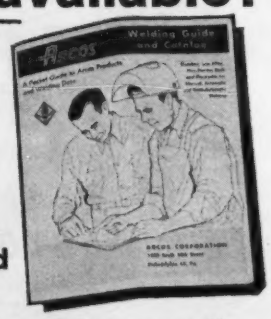
now available!



new pocket guide and catalog for better welding results

Nothing like it! Pocket size. Complete data on selection of rods and electrodes for welding stainless, low alloy, non-ferrous and light metals. Gives facts on applications, currents, preheating, annealing, AWS/ASTM classifications. Special sections on How to Get Better Stainless Welds, and Effect of Alloying Elements on Weld Metal. Comprehensive list of valuable technical data available. FOR FREE COPY write ARCOS CORPORATION, 1500 South 50th Street, Philadelphia 43, Pa.

ARCOS | Filler Metal Specialists

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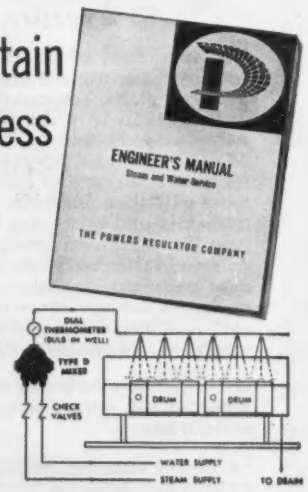
How To Maintain Uniform Process Hot Water



Practical engineering information and easy-to-follow diagrams are yours for the asking. They are included in the Powers *Engineer's Manual, Steam-Water Service.* Other sections cover:

- Domestic Hot Water
- Hot Water Storage Heaters
- Instantaneous Heat Exchangers
- Heat Exchangers For Cooling
- Fuel Oil Heaters
- Pressure Reducing
- Jacket Water Cooling
- Two-Temperature Hot Water Systems

Send for your free manual today!

THE POWERS REGULATOR CO.
Dept. 560, Skokie 44, Illinois
In Canada:
The Powers Regulator Co. of Canada Ltd.
Downsview P. O., Toronto, Ont.

POWERS CONTROL

▲ For more details circle NED-854 E on enclosed inquiry slip ▲

New Literature & Catalogs

Metal Flame Spraying Processes

Metallizing Engineering Co. — Metallizing process which sprays powdered metals, including tungsten carbide and self-fluxing alloys of the boron-silicone, nickel, chromium type, and refractory ceramics is covered in 16-page Bulletin 136B. Also reviewed is the new METCO Plasma Flame Spray process which develops temperatures up to 30,000° F and can spray any material that melts without decomposition.

▲ For more details circle NED-855 E on enclosed inquiry slip ▲

Electrical Distribution Equipment

Divided into 25 sections, 300-page catalog entitled "Continental Easy Estimator" is one of the most complete ever issued on heavy duty electrical transmission and distribution equipment for commercial, industrial, and governmental installation. Sections cover interrupter switches, medium voltage switchboards, unit substations, power centers, low voltage and panel type switchgear, bus ducts and plugs, motor control centers, circuit breakers, Heatflex, safety switches, instrument and control boards, wireway and fittings, cabinets, and boxes. Address inquiries on your letterhead to Continental Electric Equipment Co. Dept. CAT, 205 W. Fourth St., Cincinnati, Ohio.

▲ For more details circle NED-856 E on enclosed inquiry slip ▲

Hose & Cable Reels

United Specialties, Inc.—Automatic reels shown in catalog for single and dual hose and cable application will coil up the hose or cable by spring action when work is stopped. They can be mounted on floor, wall, or ceiling, or on mobile units, and are adjustable in any desired position when not in use.

▲ For more details circle NED-857 E on enclosed inquiry slip ▲

Computer Control Simplified

Beckman Instruments, Inc., Scientific & Process Instruments Div.—"A Return to Sanity in Computer Control" is title of 28-page Bulletin S-4019 which cuts through the red tape surrounding the subject of computer control. It provides answers to common problems and gives details on a step-by-step method for developing a reliable computer control system with minimum of capital. The use of building-block components is explained.

▲ For more details circle NED-858 E on enclosed inquiry slip ▲

Low-Voltage Distribution Equipment

General Electric Co., Distribution Assemblies Dept.—1960 edition of G-E's 84-page "Buy Log GEC-1100B" is condensed buying catalog for service entrance equipment, light and heavy duty safety switches, tumbler and open-knife switches, hinged wireway, circuit breakers, switchboards, motor control centers, sectional distribution centers, and all types of panelboards and busway. Pictures, prices, ratings, weights, dimensions, and application information are given.

▲ For more details circle NED-859 E on enclosed inquiry slip ▲

CIRCUIT-MASTER
missing parts detector

detects: non-ejection • mis-feed • buckling • end-of-material

Priced as low as $276.75 complete!

Protect all your dies from damaging overloads for less than the replacement cost of one. Circuit-Master's patented electronic circuits automatically stop your machines BEFORE an unejected part can cause a die-damaging overload. Simple to install, no changes to equipment or wiring required—Circuit-Master is completely automatic, no adjustments of any kind.

Write, wire, phone now for detailed bulletin NED-560.

WINTRISS, INC.
Originators and Manufacturers of Circuit-Master Overload Detector, Autotransfer, Automat, Automold and Missing Parts Detector.
20 Vandam Street • New York 13 • CHelsea 2-0105
Representatives: A few territories open on an exclusive, protected basis.

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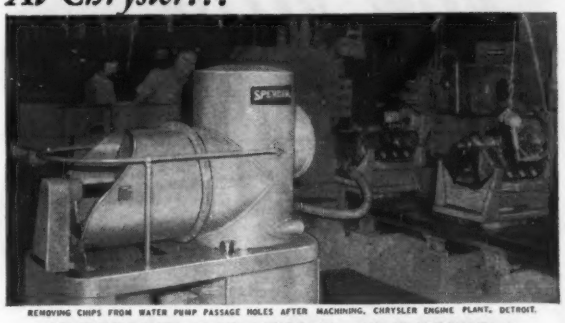
At Chrysler...



REMOVING CHIPS FROM WATER PUMP PASSAGE HOLES AFTER MACHINING. CHRYSLER ENGINE PLANT, DETROIT.

SPENCER VACUUM CLEANERS
• GUARD QUALITY • CUT ASSEMBLY COSTS

Operations performed here by Spencer vacuum cleaners include:
• Removing chips during assembly of head to block • Cleaning oil filter pad inlet passages • Automatically cleaning bearing cap assembly on block • Automatically removing core sand from engine block castings • Cleaning floors and conveyors.

In large plant or small . . . for maintenance or production needs . . . portable units or installed systems . . . whatever your requirements, it will pay to check with SPENCER.

Request Catalog #1558 on "Industrial Vacuum"

The SPENCER TURBINE COMPANY
HARTFORD 6, CONNECTICUT

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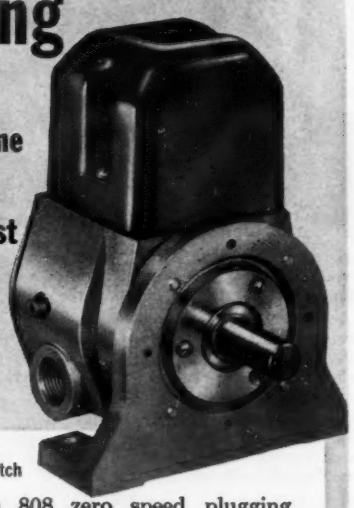
Quick automatic stopping

...saves production time
...cuts production cost



A-B QUALITY

Bulletin 808
Zero Speed Switch

This Bulletin 808 zero speed plugging switch—another Allen-Bradley "quality" item—brings motors to a quick stop automatically—it eliminates coasting. Thus, the work cycle is shortened—and production output is increased.

The Bulletin 808 zero speed switch is ideal where machine tools must be stopped suddenly—either to prevent work spoilage, and/or accidental damage to the machine. With motors that must be reversed, it can be used to prevent "plugging"—the reversing power cannot be applied until the motor has come to a complete stop.

The Bulletin 808 zero speed switch can be furnished with a lockout relay to prevent contacts from closing unless the motor starting switch is "on." As with all A-B controls, this rugged switch has silver contacts that assure reliable performance without maintenance. You ought to know more about this useful switch! Please send for details, today.

Available in three types of mountings

Three Point Flange Mounting | Base Mounted | Four Point Flange Mounting

Allen-Bradley Co., 1334 S. Second St., Milwaukee 4, Wis.
In Canada: Allen-Bradley Canada Ltd., Galt, Ont.

ALLEN-BRADLEY
Member of NEMA
Quality MOTOR CONTROL

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WILTON

Isn't it nice to know that when you buy Wilton Vises:

1/ They'll never need oiling! (Thanks to Wilton's lifetime lubrication)

2/ They're the most rugged! (Even have more pounds of malleable iron than most ordinary vises of grey iron)

3/ They deliver greatest locking force! (Fine machining is the secret)

To get the most vise value for every dollar always specify WILTON . . . *because the best costs no more!*

FOR FREE CATALOG ATTACH THIS AD TO YOUR LETTERHEAD AND MAIL TODAY!

NED-50

WILTON TOOL MANUFACTURING CO., INC. / 9525 Irving Park Road / Schiller Park, Illinois

CANADIAN ADDRESS: 178 NORSEMAN ST., TORONTO, ONTARIO

▲ For more details circle NED-863 E on enclosed inquiry slip ▲

Just like Rain!

RAIN JET® SPRINKLERS

COMPLETE SYSTEM FOR 50% LESS!

• Averages 3¢ a sq. ft. (Conventional system is 6¢ to 10¢.) • Three Rain Jets outperform 20 ordinary heads, install 75% faster! • Finest quality brass. Fully guaranteed. Over 1 million in use!

PATTERNS TO FIT ANY SIZE LAWN: SQUARES UP TO 30' X 30' · CIRCLES UP TO 30' · HALF & QUARTER CIRCLES UP TO 15' · RECTANGLES UP TO 5' X 40' · STRIPS UP TO 5' X 25' · ADJUSTABLE SWIVEL HEADS

New! Rain Jet flexible polyethylene pipe. Made of DuPont Alathon Super 25 — the finest quality obtainable. **New! Rain Jet quick-attach fittings.** No clamps, cement, or threading. Full flow. Leak-proof. No wrench needed . . . hand-tightened. Planning service available.

Write for "How to Install" Brochure.

RAIN JET CORP., 301 SO. FLOWER ST., BURBANK, CALIF.
ALSO MAKERS OF RAIN JET ROTARY SHOWER HEAD

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New Processes & Materials

UNIVERSAL LUBRICANT
stick and pressurized can types

Film of hard, smooth monomolecular metal deposited by Target Lube resurfaces dies and other surfaces damaged by metal pick-up or galling. This film, under the heat of friction, becomes a part of any metal surface to which it is applied. The universal lubricant is offered in stick and pressurized spray can forms. It resists high temperatures, acids, alkalies, and corrosion. In stick form it is used as a crayon for stamping and drawing die resurfacing. Spray is used on dies, die guide pins, and cam dies, for prevention of galling on die inserts, as a mold release, and for chain, sprocket, conveyor, and way lubrication. • **Chemical Lubricants Co.**, 2300 N. Woodward Ave., Royal Oak, Mich.

▲ For more details circle NED-866 E on enclosed inquiry slip ▲

SPRAY CLEANER
removes oils, soils from metal

A stable, free-flowing, dustless powder readily soluble in cool or warm water, No. 5-S spray cleaner will remove rust preventive oils and other soils from ferrous metal stock or components. It can be used at room, or slightly elevated temperatures and is effective as an alkaline cleaner prior to Keykote phophatizing. Cleaner has low foaming and excellent soil removing characteristics. • **Kelite Corp.**, 81 Industrial Rd., Berkeley Heights, N. J.

▲ For more details circle NED-867 E on enclosed inquiry slip ▲

PENETRATING FLUID
loosens frozen, rusted parts

A few drops of DU-OL nonflammable, nontoxic, synthetic penetrating fluid on tightly frozen and rusted parts quickly disintegrates the rust for easy separation of the parts. It contains no acid, carbon tetrachloride, kerosine, or other petroleum products, and is beneficial to natural and synthetic rubber. Fluid is odorless and can be used on hot or cold surfaces. It is offered in ½ and 1-pt cans, 1, 5, and 55-gal containers, as well as a 12-oz aerosol spray can. • **Supersite Corp.**, 298 Seymour Ave., Derby, Conn.

▲ For more details circle NED-868 E on enclosed inquiry slip ▲

OSBORN®

HOW TO END CONVEYOR BELT CLEANING PROBLEMS

Unique OSBORN ROTA-MASTER® brushes do the job automatically . . . can cut your downtime and maintenance costs now

CARRYOVER on rubber and fabric conveyor belts can cause destructive wear—and add costly downtime hours spent in frequent cleaning. Osborn Rota-Master® Brushes automatically and efficiently prevent buildup of such materials as chemicals, food, tobacco, chips, core sand, coke and ore on belts, rolls, snubber pulleys and return idlers.

Easy to install and adaptable to any system—Rota-Master Brushes clean conveyor belts with a unique, flexible sweeping action that does a thorough job. Brushes are self-cleaning, simple to adjust for correct brushing pressures.

Write for details to help pinpoint exactly how you can cut costs and simplify your conveyor cleaning. *The Osborn Manufacturing Company, Dept. N17, Cleveland 14, Ohio.*

Newest Osborn Rota-Master® Brush features: Newly developed KORFIL®P fill material is extra-rugged . . . cleans more thoroughly, wears longer. New lightweight mounting is easier to handle and install. Mounting is re-usable . . . replacement strips easily inserted. In 16", 18", 24" face widths. Assemble in multiples for any belt size.

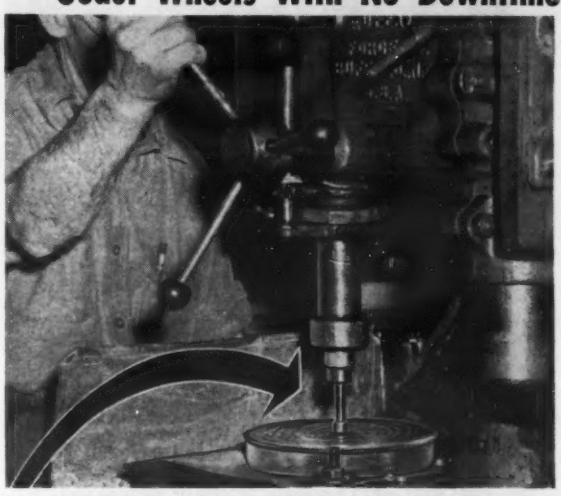
Write For Rota-Master® Brush Booklet . . . includes complete application, specification and operational data for all types of conveyor belt cleaning requirements.

Osborn Brushes

METAL FINISHING MACHINES . . . AND METHODS • INDUSTRIAL BRUSHES • FOUNDRY PRODUCTION MACHINERY

▲ For more details circle NED-865 E on enclosed inquiry slip ▲

One Hoffman Bit Drills Up to 15,000 Godet Wheels With No Downtime

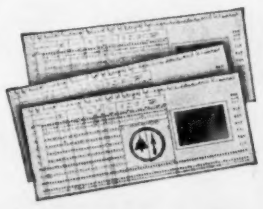


Up to 15,000 Godet Wheels drilled with center hole tolerance 1.5 min. to 1.53 max.—with one Hoffman Laboratory Bit. Actual production figures that are being duplicated by many Hoffman Bit users for precision drilling of glass, ceramics, quartz, etc. Diamond impregnated or oriented surface set.

Write for Illustrated Literature and Prices—FREE

HOFFMAN BROS. DRILLING CO.
SINCE 1902
106 Cedar Street PUNXSUTAWNEY, PENNA.

▲ For more details circle NED-869 E on enclosed inquiry slip ▲



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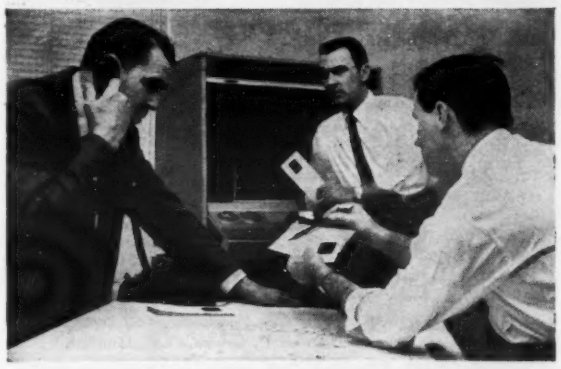

Filmsort aperture cards make it so simple to supply engineering information to any department, branch, or plant. When microfilmed drawings are on these versatile cards, facts that speed production are at your finger tips in just 90 seconds. This aperture card system, long used by the Armed Forces, is flexible and adaptable to any engineering drawing reference system—any budget in any size operation. Multiple point-of-use files are easy to create and maintain. You can take a look at Filmsort cards on a reader—or take more than a look, take a copy in seconds with a reader-printer. You eliminate waiting time for prints, out-of-file problems. You recover up to 96% of drawing file space, reduce overhead, improve communications. For free booklet on how Filmsort aperture cards speed industrial paper work and communications, mail the coupon now.

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MINNESOTA MINING AND MANUFACTURING COMPANY
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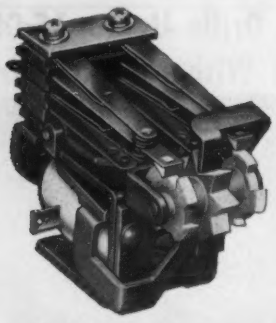


Contacts of this Struthers-Dunn Sequence Relay can transfer on either the energizing or release stroke for countless sequence combinations. DP, ST or DT types are rated 5 amps. at 115V. AC.

WHAT RELAY OPERATING SEQUENCE do you need?

You can get a million operating sequences from this little relay—including unusual ones that previously required much more complicated control systems! It has provided simple, low cost schemes for alternating pump and compressor operations; finds wide use in automatic process or machine tool control, and is well suited for traffic control, door and window openers and many more. *Write for Data Bulletin 5211.*

STRUTHERS-DUNN, INC., Pitman, N. J.

S-D STRUTHERS-DUNN

MAKERS OF THE WORLD'S LARGEST SELECTION OF RELAYS

▲ For more details circle NED-876 E on enclosed inquiry slip ▲

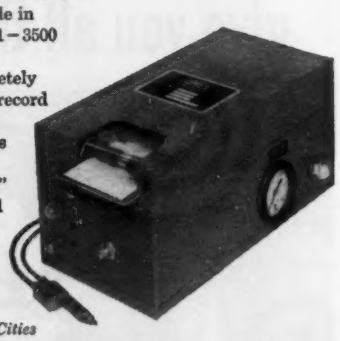
Announcing

an important new development for quality control measurement

AMES MODEL AG7

Accu-Flow* Air Gage Recorder

A permanent record of continuous measurements can be made in magnifications of 1750 to 1—3500 to 1—and 17,500 to 1. The AG7 provides a completely impersonal measurement record that can be used both as a controlling device and as a means of furnishing visible "proof of precision" to buyers of the measured products. Send for free ACCU-FLOW folder.



*Trademark of B. C. Ames Co.

Representatives in Principal Cities

B.C. AMES CO.

34 Ames Street, Waltham 54, Mass.

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MANUFACTURERS OF MICROMETER DIAL INDICATORS AND GAGES

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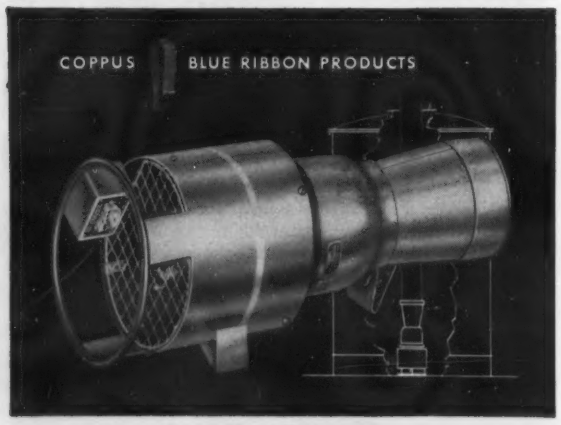

COPPUS "Blue Ribbon" Ventilator-Blowers are portable and easily adaptable . . . for supplying fresh air or discharging foul air or fumes. Mail coupon below for facts.

COPPUS ENGINEERING CORP.
405 Park Avenue, Worcester 10, Mass.

- ☐ in tanks, tank cars
- ☐ in underground manholes
- ☐ for exhausting welding fumes
- ☐ on boiler repair jobs
- ☐ for general man cooling
- ☐ to stir up stagnant air wherever men are working or material is drying

Name.....
Company.....
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City.....

COPPUS BLOWERS

▲ For more details circle NED-878 E on enclosed inquiry slip ▲

New Literature & Catalogs

Industrial Closed Circuit Television

Aid in planning closed circuit television systems for steel mills, railroads, metalworking plants, refineries, and other types of plants is provided by 112-page illustrated catalog. It covers cameras, housings, lenses, monitors, switchers, microwave equipment, and the television tape recorder. Available only upon letterhead request to Radio Corp. of America, Dept. 759, Bldg. 15-1, Camden 2, N. J.

▲ For more details circle NED-879 E on enclosed inquiry slip ▲

Selecting Belt Conveyor Idlers

Hewitt-Robins, Inc.—48-page engineering and product information Booklet 171 compares construction of 10 competitive designs of belt conveyor idlers. It also presents selection, engineering, and application data. Idlers for troughing, impact, transition, feeding and picking, deep trough, and return trainer service are among the 134 styles described.

▲ For more details circle NED-880 E on enclosed inquiry slip ▲

Molybdenum Data

Universal-Cyclops Steel Corp., Refractomet Div.—44-page data book entitled "Molybdenum Mill Products Specifications" lists engineering information on unalloyed molybdenum and Mo-5 Ti alloy billets, bars, plates, and sheets. Scope, manufacture, chemical composition, structure, mechanical properties, dimensions, finish, and other data are covered.

▲ For more details circle NED-881 E on enclosed inquiry slip ▲

Machine Mounts That Stop Vibration

Felters Co., Unisorb Div.—Unisorb Pads, Level-Rite, and Level-Rite UL machinery mounts that control vibration, simplify machine installation, permit easy relocation, allow machines to operate at higher speeds, and assure accuracy are subject of 6-page illustrated bulletin. Information is given to aid in selecting and using these vibration absorbing mounts. A self-leveling type is also described.

▲ For more details circle NED-882 E on enclosed inquiry slip ▲

Solid Woven Cotton Belting

Franklin Cotton Mill Co.—Published by the Woven Fabric Belting Manufacturers Association, 16-page booklet on solid woven cotton belting explains why it is not laminated, but a single-integral belt. Advantages of this construction are described, as are various treatments and covers, plus physical properties. Recommended standard provides a basic guide for users.

▲ For more details circle NED-883 E on enclosed inquiry slip ▲

Wire Mesh Heating Elements

Electrofilm, Inc. — Extremely flexible Electromesh heating element weighs only ⅓ psf and is 0.040-in. thick, including insulation. Described in illustrated 16-page Catalog WMB-2-459, the wire mesh elements are easily adapted to most complicated, hard-to-fit surfaces. Physical properties and thermal characteristics are included in contents.

▲ For more details circle NED-884 E on enclosed inquiry slip ▲

Automatic Boilers

Lookout Boiler & Mfg. Co.—Design and construction details, plus specifications of nine sizes of gas and oil-fired boilers, are content of 12-page illustrated Catalog 120. Automatic units have maximum working pressures of 100 or 125 psi in 10 to 100-hp sizes. Turbulators in each boiler tube cause swirling of hot gases. All units are equipped with controls and safety devices.

▲ For more details circle NED-885 E on enclosed inquiry slip ▲

Pneumatically-Actuated Valves

Conoflow Corp.—Air-operated, close-coupled Saunders valves are available in ½ to 14-in. sizes with unlined, rubber or Saran lined bodies. Eight-page Bulletin HB-7 has a section on valve sizing and flow coefficients to aid in selection. Line of valve actuators includes springless diaphragm, cylinder, and spring and diaphragm types for on-off or throttling applications.

▲ For more details circle NED-886 E on enclosed inquiry slip ▲

Vacuum Metallizing Coatings

Bee Chemical Co., Logo Div.—Base coats for use before vacuum metallizing and top and back-up coats for use after metallizing are discussed in 45-page spiral-bound booklet "Coatings for Vacuum Metallizing." Use of spray, dip, and flow applied vacuum metallizing coatings on various plastics, metals, and glass is discussed.

▲ For more details circle NED-887 E on enclosed inquiry slip ▲

for MORE POWER, HIGHER SPEED

Use Cleco Precision Die Grinders

Cleco's new No. 6 Series Die Grinders are built for high speed, precision work requiring carbide burs or small mounted points. Only 4⅞ inches long, these grinders produce more power under load than any other tool of their type. Free speed is 30,000 rpm. Precision spindle and chuck reduce "run-out" and vibration even at this high speed. Cleco Die Grinders are available with lever or button throttles, front or side exhaust. Special design, self-contained motor slips into abrasion-resistant casing for quick, easy maintenance. For high speed grinding, for intricate handwork, and for finish work on dies and metal molds, Cleco No. 6 Series Die Grinders are your best tool buy! For jobs requiring more power and lower speed use Cleco No. 10 Series Die Grinders. Call your local Cleco® representative today for a tryout demonstration.

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A Division of REED ROLLER BIT COMPANY
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927 Millwood Road, Leaside (Toronto), Ontario

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Take Your Pick

OF THESE BROOK A.C. MOTORS

THE Open Drip Proof NEMA Rerate Motor occupies less space— weighs 12 to 15% less than the Open Drip Proof Motor in the old frame. This is no case of "Riding horse versus draft horse"—both motors have equal stamina. Some prefer the old frames, especially where space is no factor. Brook warehouses coast-to-coast carry both types in stock. You can't find a better motor at any price, yet Brook Motors cost substantially less, because of volume production, modern techniques, world-wide distribution and a realistic pricing policy. Brook Motors available from 1 to 600 H.P. All standard enclosures. Write for literature and name of your Brook Dealer.

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SINCE 1904 BROOK MOTOR CORPORATION

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SAVE ON SAW SHARPENING

If it costs you $25.00 or more a month, let your monthly sharpening bill pay for a FOLEY SAW FILER.

What is your monthly saw sharpening bill? Are you paying $25.00 a month or more, or sharpening saws by hand, or probably using them when too dull? If so, a Foley Saw Filer will soon pay for itself in your plant. With the Model 200 Foley Automatic Saw Filer you can sharpen both "combination" and crosscut circular saws, band saws and hand saws. No experience needed to turn out precision sharpening with a Foley. Increase your sawing production, improve your work quality, prolong the life of your saws—and let your monthly sharpening bill pay for the Foley.

30-DAY TRIAL OFFER

You may try the new Model 200 Foley Saw Filer in your own shop for 30 days. Write for literature and details of 30-day trial offer.

FOLEY MFG. CO.
3323 N. E. 5th STREET
MINNEAPOLIS 18, MINN.

▲ For more details circle NED-890 E on enclosed inquiry slip ▲

NEW PERISTALTIC DISCHARGE VALVES
Solve Tough Material Handling Problems

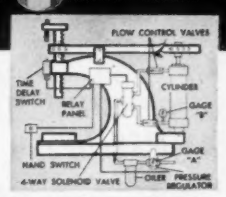
New rubber diaphragm peristaltic valves designed and manufactured by the U.S. Hoffman Machinery Corp., make it possible to automatically discharge materials which can not be handled easily by conventional methods. These include catalysts, pellets and other odd-shaped and abrasive materials unable to pass through rotary valves. The peristaltic valve's elliptical body section and "sandwiching" of gum rubber diaphragms insure positive closure. Movement is confined solely to the diaphragms which alternately open and close by air pressure and vacuum. The peristaltic valve's *fail-safe* design feature is exclusive and patented by Hoffman. Should one of the diaphragms rupture, the other extends to the opposite side of the valve for complete and positive closure. A *double* valve assembly permits the discharge of materials in controlled quantities against high differential pressures with 100% air-tight seal. Each chamber has its own control and the entire operating sequence can be automatically timed. For free illustrated bulletin, write Dept. EJM, U.S. Hoffman Machinery Corp., Air Appliance Div., 103 4th Ave., New York 3 *Advt.*

▲ For more details circle NED-891 E on enclosed inquiry slip ▲

PNEU-TROL

AUTOMATION TIME DELAY SWITCH

FOR CONTROLLED TIME DWELL OF AIR OR HYDRAULIC CYLINDERS



Arbor press converted to high production power press, using double end cylinder, Time Delay Switch, Flow Control Valves, and related equipment, Flow Valves permit independent ram speed adjustment in both directions. Differential pressure between "A" and "B" gages caused by throttling effect of Flow Control Valve creates time interval in working pressure build-up, which is compensated for by Time Delay Switch setting. This insures consistently accurate working pressure on the ram.

- Holds dwell accurately to fraction of second
- Automatically re-sets
- Designed for millions of actuations

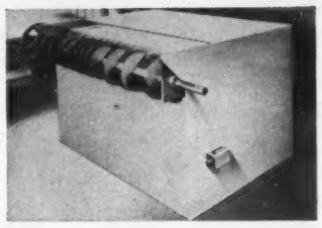
Pneu-Trol Time Delay Switch will hold any cylinder controlled motion or operation at a positive stop on either end of the stroke for ¼ to 60 seconds in 20 to 1 ratios. Simple, easy to adjust. Automatically re-sets after each actuation. Positive, controlled time dwell permits wider use of air or hydraulic power in automatic operations, increases accuracy of work by insuring split-second accuracy of time dwell. Available with many thrust linkages for left and right, down, up, or horizontal thrust. Write for Special Bulletin TDS-59

AUTO-PONENTS INC. 2929 GRANT STREET BELLWOOD (Chicago Suburb) ILLINOIS

▲ For more details circle NED-892 E on enclosed inquiry slip ▲

New Processes & Materials

SLIT WIRE CLOTH
plain and twilled weaves offered



Short lengths and extra long lengths of wire mesh with 0.0035 to 0.020-in. wires are available slit to any desired width. Both plain and twilled weaves can be so specified. Cuts are made along the same wire throughout the entire length of the roll, eliminating jagged sections and curving of the strip. • **Belleville Wire Cloth Co.**, 135 Little St., Belleville, N. J.

▲ For more details circle NED-894 E on enclosed inquiry slip ▲

REPRODUCTION PAPER
makes positives from microfilm

Simplified production of enlarged positive copies directly from negative microfilm is possible with Projection Mono-Copy, a silver-sensitized reproduction paper. After normal exposure on any standard microfilm reader-printer or microfilm projection equipment, one-step developing is done in Anken Monobath solution (a combination developer-stabilizer), using a machine processor of the Anken 27 type. No further fixing or washing is necessary and operations may be performed under subdued light conditions. Projection Mono-Copy can be used with all types of negative microfilm in aperture cards, strips, jackets, or on roll film in all sizes to 105 mm. Cost of an 8½ x 11-in. copy is about 5 cents. • **Anken Film Co.**, Hix Avenue, Newton, N. J.

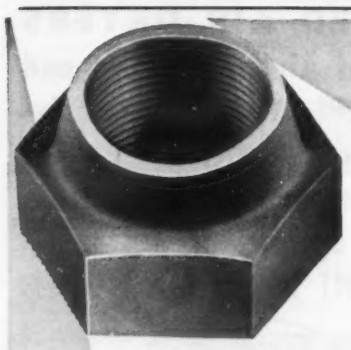
▲ For more details circle NED-895 E on enclosed inquiry slip ▲

ASBESTOS PLASTIC-FELT
withstands high heat and pressure

Composed of a non-woven asbestos felt saturated with a thermosetting phenolic resin and an inorganic filler, Thermomat molding compound is furnished in sheet form for easy one-piece lay-up. Partly dried slabs furnished for fabrication are extremely conformable. Thermomat is tough and rigid after curing and withstands high heat and pressure, flame erosion, and physical abrasion. Varying the contents allows fabrication of components with the desired final properties. Slabs 14 in. wide, 12 ft long, and 3/16-in. thick are available. When cured, Style 179 compound has a density of 106 lb per cu ft, shear strength of 20,300 psi, tensile strength of 15,474 psi, and ultimate flexural strength of 25,300 psi. • **Johns-Manville**, 22 E. 40th St., New York 16, N. Y.

▲ For more details circle NED-896 E on enclosed inquiry slip ▲

New One-Piece "Conelok" with prevailing torque



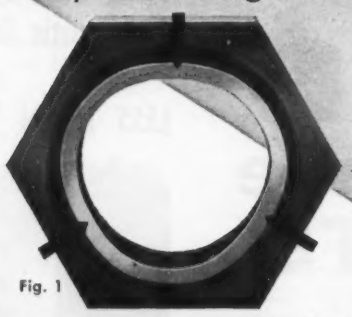


Fig. 1

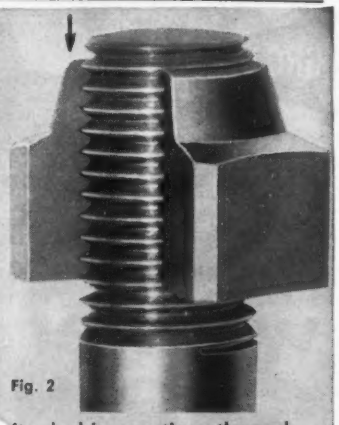


Fig. 2

Three sectors of the tapered portion of the CONELOK nut are preformed inwardly (Fig. 1). When the Nut is applied to a bolt, these conforming sectors are elastically returned to a circular configuration and create an inward and downward pressure which produces intimate contact between the load carrying flanks of the nut and bolt threads (Fig. 2). The shape of the cone sector displacement insures conformity with the mating bolt and maximum friction contact area. . . . The closed stress path in the locking portion of the nut and the advantageous distribution of locking pressure, produce a locking device of high fatigue life . . . and equivalent locking force is exerted at only a fraction of the stress of any slotted type locknut. CONELOK maintains its locking action through many re-applications. . . . It is adaptable to high, and low torque assemblies . . . to high torque stop-nut applications . . . and may be obtained in sizes from No. 10 through 1½", Full and Thick dimensions are "Standard". . .

Send for brochure which includes complete engineering specifications.

NATIONAL MACHINE PRODUCTS COMPANY
an SPS company 44250 UTICA ROAD UTICA, MICHIGAN

▲ For more details circle NED-893 E on enclosed inquiry slip ▲

Vibratone HORNS ARE BETTER because— they are EASIER TO INSTALL!

Easier installation means less costly installation. Easier installation promotes better workmanship. Contractors prefer *Vibratones* because they require no special tools or fittings, because they attach readily to any outlet box, and because they involve no tuning or complicated adjustment.

This is but one of dozens of advantages of the *Vibratone* over other horns. *Specify FEDERAL Vibratones* on *your* signal installation. Investigate. Ask for bulletin #105.

FEDERAL SIGN and SIGNAL Corporation
13611 S. Western Ave. Blue Island, Ill.

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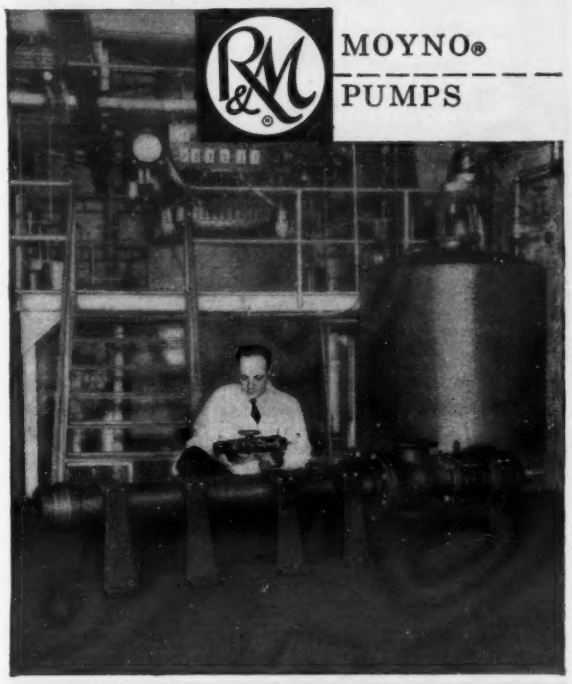

MOYNO® PUMPS
capacities: from 1/100 to 500 gpm
pressures: up to 1000 psi

MOYNO pumps are available in nine sizes with capacities ranging from minimum metering flow to 500 gpm and pressures from zero to 1000 psi. Positive displacement delivers uniform discharge without pulsation, agitation or turbulence. Solutions ranging from thin watery slurry to extremely viscous paste, corrosives, abrasives and even solids in suspension are economically handled without excessive pump wear.

MOYNO's unique *"progressing cavity"* principle with only one moving part and special resistant internal parts slashes pump maintenance costs on problem materials that often ruin other pumps. Almost any substance that can be forced through a pipe can be pumped by a MOYNO.

To learn how a MOYNO can cut your pumping costs, write today for Bulletin 30-NE

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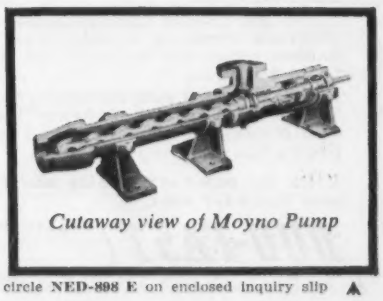
motors, household fans, Propellair industrial fans, hoists, Moyno industrial pumps
SPRINGFIELD, OHIO · BRANTFORD, ONTARIO



Cutaway view of Moyno Pump

▲ For more details circle NED-898 E on enclosed inquiry slip ▲

EDMONT CASE NO. 632: Handling thin steel sheets wore out $10-a-dozen leather gloves in 3 shifts. Edmont recommended No. 62W Grab-it gloves with rough-surfaced coating of tough natural rubber, which lasted 12 shifts, reduced glove costs 74%.

Outwore Leather Glove 4 to 1

No. 62W Grab-it Palm coated Safety cuff

The case above is another typical example of the way the Grab-it glove surpasses leather gloves in cut resistance . . . enough in this instance to reduce glove costs from 27c to only 7c per man-shift. A further benefit is the Grab-it's excellent non-slip grip, which provides safer, speedier handling.

Free Test Offer to Listed Firms: Tell us your operation, materials handled, temperature condition. From more than 50 types, we will recommend the correct glove and send samples for on-the-job testing.

Edmont JOB-FITTED **GLOVES**

Edmont Manufacturing Company
1240 Walnut Street, Coshocton, Ohio
In Canada write MSA, Toronto

▲ For more details circle NED-899 E on enclosed inquiry slip ▲

■ Here's a ruggedly built dock bumper that minimizes dock, truck and freight damage by absorbing the impact of trucks backing into docks. Easily installed on wooden or concrete docks, they are the only bumpers made from resilient reversible rubber reinforced fabric that give you double service life. The bumpers will remain resilient even when frozen . . . require no covering and will not flatten or pack.

Write for detailed literature and prices.

BUMPERS, INC.
Subsidiary of Rowe Methods, Inc.
2534-D Detroit Ave. • Cleveland 13, O.

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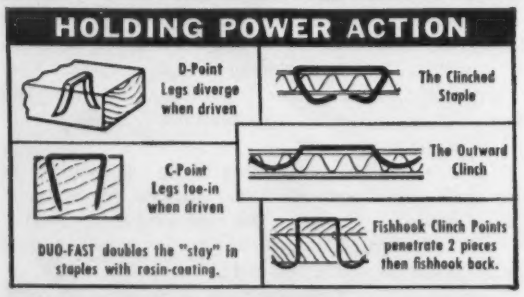
DUO-FAST STAPLES

HOLDING POWER ACTION



A complete range of staples for every fastening job

Whether it's crating, carton assembly, industrial packaging, woodworking jobs, or a thousand other uses, you'll do it better, faster, at lower cost with DUO-FAST Staples.

You get exactly the staple you need because DUO-FAST comes in a wide range of wire sizes, finishes, crown widths, points and lengths . . . from 5/32" to 1½".

Your DUO-FAST man can show you how DUO-FAST Staples team up with DUO-FAST Tackers, Staplers and Nailers to cut costs and increase your production.

Write for DUO-FAST catalog and the address of your DUO-FAST man.

DUO-FAST / FASTENER CORPORATION
3758-60 River Road
Franklin Park, Ill.

0439

▲ For more details circle NED-901 E on enclosed inquiry slip ▲

New Literature & Catalogs

Aluminum Joining Manual

All-State Welding Alloys Co.—Comprehensive 40-page aluminum joining manual completely surveys aluminum welding, brazing, and soldering. It contains twelve charts on the composition of aluminum alloys, their mechanical and physical properties, and recommended filler alloys for aluminum MIG and TIG welding. All of company's aluminum joining products and fluxes are listed.

▲ For more details circle NED-902 E on enclosed inquiry slip ▲

Sonic Molded Aluminum Bronze

Bronze & Steel Die Casting Co.—Advantages of Sonic molded aluminum bronze castings are pointed out in 4-page folder. These include uniformity, fine grain structure, and freedom from shrink holes, porosity, and hidden defects. Internal uniformity of castings is assured through sonic vibrations.

▲ For more details circle NED-903 E on enclosed inquiry slip ▲

Felt as a Design Material

Felters Co.—Design properties of felt, descriptions of special treatments, and data on how to select the proper shapes and dimensions for specific applications are subjects covered in 24-page booklet. Data are also provided on felt for lubrication seals, gaskets, wicking, and filters. Tables aid selection and specification.

▲ For more details circle NED-904 E on enclosed inquiry slip ▲

Nonferrous Metal Melting Furnaces

Hevi-Duty Electric Co.—Bulletin 591 contains 12 pages of descriptive and technical information on pot, crucible, double chamber dry hearth, and large reverberatory furnaces. Capacities range up to 30 tons of aluminum per hour.

▲ For more details circle NED-905 E on enclosed inquiry slip ▲

Variable Pitch Sheaves & Motor Bases

Browning Mfg. Co.—Browning spring loaded and manually controlled variable pitch sheaves described in 8-page Catalog SL-101-A can be adapted to nearly any machine using a single V-belt. Also covered is an adjustable motor base which provides efficient center distance control. Items are designed for 1/6 to 2-hp drives.

▲ For more details circle NED-906 E on enclosed inquiry slip ▲

Rubber-Bonded Abrasives

Weldon Roberts Rubber Co., Brightboy Industrial Div.—Exceptional time and work savings obtained with Brightboy cushioned abrasive products in burring, cleaning, finishing and polishing operations are pointed out in illustrated Catalog 60. Methods and application data, machine and manual operations, machine speeds, and details of abrasive textures and stock sizes make up 16 pages of this manual. Wheels, discs, rods, and blocks are available in 49 job-matched bonded rubber abrasive compounds.

▲ For more details circle NED-907 E on enclosed inquiry slip ▲

another new exclusive **GRC idea**

GRC die cast zinc alloy
washer base CAP NUTS

GRC makes new exclusive low cost fasteners with Integral Washer Bases for better fastening performance and appearance. Won't mar soft surfaces. Use with oversize or offset holes. Prevents wrench marks. All these advantages at no extra cost to you.
Use standard diameter nuts wherever regular cap nuts would be used alone—full diameter nuts wherever regular cap nuts would be used with separate washers.

Standard thread sizes from #4 through ½"—14 hex sizes.
- Rustproof and corrosion resistant
- No tool marks or cut off burrs
- Save assembly time—inventory costs

Cap Nuts and Wing Nuts in widest range of styles and sizes.

Both closed end and open end washer base cap nuts available with full & standard washer diameters. In addition GRC has the most complete stock of standard Cap Nuts.

Write today for new detailed fastener catalog

GRIES REPRODUCER CORP. GRIES
World's Foremost Producer of Small Die Castings
143 Beechwood Ave., New Rochelle, N. Y., NEw Rochelle 3-8600
See us at the DESIGN ENG. SHOW—Booth 2435

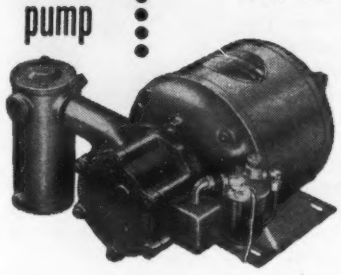
▲ For more details circle NED-908 E on enclosed inquiry slip ▲

NEED VACUUM?

use the COMPACT pump

The Motoair Pump is built integral with its own motor to take the least amount of space and to avoid extra assembly necessary with separate drive.

Automatic lubrication complete with re-circulating system and visible oil reservoir is a feature of



the MOTOAIR®

Instantaneous suction and positive action is provided with the Motoair, being directly driven at the same rpm. as the motor.

ASK FOR CATALOG with performance data on various sizes of pumps. Oil-less models also available.

824

NEW JERSEY MACHINE Corporation
FACTORY SALES AND SERVICE BRANCHES
CHICAGO, LOS ANGELES
1550 WILLOW AVENUE, HOBOKEN, N. J.

▲ For more details circle NED-909 E on enclosed inquiry slip ▲

"We keep hands working

here at Preformed Products by protecting against INDUSTRIAL DERMATITIS with

Go-Jo CREME HAND CLEANER"
...says Delbert Bish, Shop Foreman, Preformed Line Products Co., Cleveland, Ohio.

Preformed Line Products Co. is just one of the thousands of companies that protect their employees against industrial dermatitis by providing Go-Jo Creme Hand Cleaner dispensers in convenient locations throughout the plant.

- PURGES IMBEDDED GREASE AND GRIME! *(works best with water)*
- PROTECTS WITH MEDICALLY APPROVED GT-7! *(a powerful antiseptic)*

FOR FURTHER INFORMATION WRITE:
GOJER INC., Dept. N-50 BOX 991 AKRON 9, OHIO

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COMPRESSED AIR DRYERS

Stop Freezing of Air Lines Inside and Outside Entire Plant — Extract Moisture and Foreign Particles — Protect Pneumatic Equipment against Corrosion and operate for LESS THAN 1-CENT PER 16,000 CU. FT.

PATS. PEND.

Van-Air® DRYER

VAN-AIR DRYERS require NO regeneration, heat, power, injection or volume loss — operate automatically — deliver air dry, clean, sterile, non-toxic. Built in sizes to treat any volume of compressor output — large or small — NO LIMIT.

PLANT ENGINEERS — Look into the DOLLAR economy and PENNY cost of VAN-conditioned compressed air. Ask for 16-page brochure with charts.

VAN PRODUCTS CO. ★ Engineers ★ Manufacturers
5766 SWANVILLE ROAD, ERIE, PENNSYLVANIA

▲ For more details circle NED-911 E on enclosed inquiry slip ▲

LET THE BIT DO THE WORK..

SWITCH FROM STEEL STAR DRILLS TO...

Cyclo-twist® ROTARY CARBIDE-TIPPED

MASONRY BITS

Drill more holes with less effort and at less cost because they're...

THE ONLY BITS WITH ALL THESE BETTER-DESIGN FEATURES:

Designed, Engineered, and Proven for the Job. COPIED, BUT NEVER EQUALED!

1. No Carbide Hangover
2. Copper-Brazed Carbide Tip Gives Longer Bit Life
3. Ground Cutting Edges
4. Spiral Flutes Assure Positive Dust Removal
5. Heat-Treated, High Quality Alloy Steel

SIZES: 7/16" to 1½" diameter. Extra lengths up to 36".

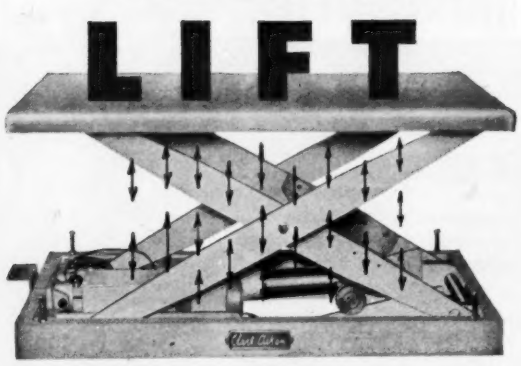
Stop drilling the hard way! Send for FREE copy of "MASONRY BIT SELECTOR GUIDE".

New England CARBIDE-TIPPED MASONRY BITS

NEW ENGLAND CARBIDE TOOL Co., Inc.
55V Commercial St. Medford 55, Mass.

▲ For more details circle NED-912 E on enclosed inquiry slip ▲

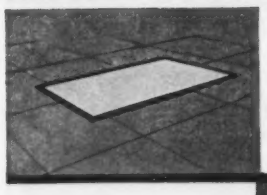
EASY WAY TO GET A LIFT



FOR LOADS UP TO 6000 LBS.—IN MATERIALS HANDLING SYSTEMS OR FOR CONVENIENT PORTABLE USE

Standard sizes afford a wide selection of heights that readily adapt them to changing requirements—from floor level to a height of 48" and will lift up to 6000 lbs. depending on the unit. Control is fast and sure for any height positioning and with electronic accessories automatic positioning is available. Special cradle tops are available for handling paper rolls and other cylindrical materials.

Clark-Aiken STANDARD LIFT TABLES

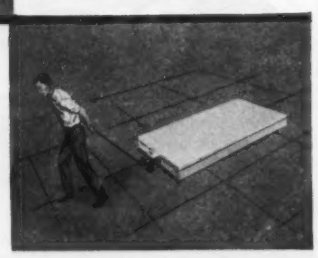


FLOOR LEVEL INSTALLATIONS WITH SAFETY TOE GUARD

Tables may be flush floor mounted with disappearing toe guards for safe operation.

EASY TO MOVE FOR PORTABLE USE

Portable unit is wheel mounted; makes easy mobility around the shop for your requirements.



Send today for informative bulletin. Tell us your requirements and we will recommend table size.

THE Clark-Aiken COMPANY
105 HART ST. LEE, MASSACHUSETTS

Canadian Representative: Gordon W. Keates
133 Flora Drive, Scarborough, Ontario

▲ For more details circle NED-913 E on enclosed inquiry slip ▲

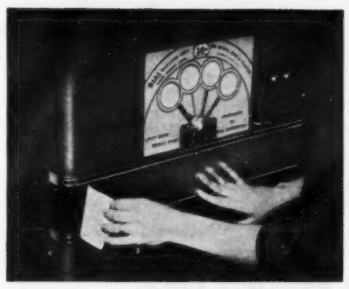
New Processes & Materials

SPONGE RUBBER resists fuels and lubricants

Little change in physical properties over a −100 to 500° F range is noted in Cohrlastic 10530 fluorosilicone sponge rubber. The compound has a dense, uniform, nonabsorbing, closed cell structure and is resistant to fuels and lubricating oils. It is immune to aging and ozone, will not weather-harden, and has good dielectric properties and good compression set resistance. Applications include soft gasketing, vibration dampeners, fairing strips, pads, and cushions. Available from stock are 12 x 12-in. and 24 x 24-in. molded sheets in 1/8, 3/16, and 1/4-in. thickness. Thinnest material is $14 per square foot. • **Connecticut Hard Rubber Co.**, 407 East St., New Haven 9, Conn.

▲ For more details circle NED-914 E on enclosed inquiry slip ▲

VINYL LAMINATE resists solvents, is used as trim

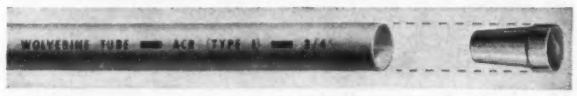


Mylar surface film of self-adhesive metallized vinyl laminate materials is extremely tough, has high tensile strength, and is abrasion resistant. Underlying metallized surface is protected by the Mylar film which is thick enough to permit deep embossing. Acid, alkali, grease, and solvent resistant laminate is available in rolls, strips, and sheets for decorative panels and trim. It can be die cut, silk screened, and hot stamped to make finished parts, nameplates, and labels. Application is by removing backing paper and pressing into position. • **Avery Adhesive Products, Inc.**, Fasson Products Div., 250 Chester St., Painesville, Ohio.

▲ For more details circle NED-915 E on enclosed inquiry slip ▲

COPPER TUBE for refrigeration, air conditioning

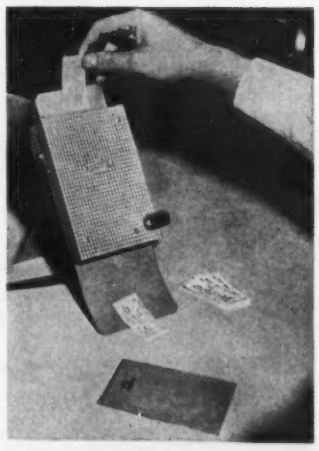
Cleaned and sealed Type L Wolverine ACR copper tube is offered in 20-ft straight lengths in sizes from 1/4 to 4 in. nominal OD. Produced for refrigeration



and air conditioning applications, it is color coded to indicate its primary use. • **Calumet & Hecla, Inc.**, Wolverine Tube Div., 17200 Southfield Rd., Allen Park, Mich.

▲ For more details circle NED-916 E on enclosed inquiry slip ▲

ADHESIVE COATED PAPER for applying nomenclature data



Cut sizes of Print-Shield nomenclature paper, a thermoplastic adhesive coated product, are readied for application by dropping them into a compact activator - dispenser for a few seconds. Paper affords a rapid method of placing nomenclature information on packages, bags, boxes, and containers in accordance with MIL-STD - 129B specification. It can be printed, typed, or reproduced on various machines, and is unaffected by moisture. Information placed on the adhesive side becomes embedded in the adhesive coating, and after application, is protected by a plastic film. Activator-dispenser is manually fed and operates on 110 v ac. • **Nashua Corp.**, 44 Franklin St., Nashua, N. H.

▲ For more details circle NED-917 E on enclosed inquiry slip ▲

David Round JIB CRANES
Swinging Bracket Type Series 600

Erect Conveniently on self-supporting pillars, building columns and walls.

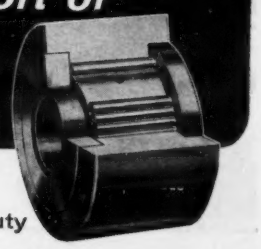
For maximum strength, safety — long-life, Pins and Bolts in all Fittings are in Double Shear. Fabricated Steel Yokes • Fabricated Steel Clevises • Alloy Steel Hardened and Ground Pins and Thrust Washers • Ollite Bronze Bearings in Hinges are Zerk fitted for pressure lubrication.

Order from your Distributor
Chain Hoists • Electric and Air Hoists & Winches
Cranes • Sheaves and Chain

DAVID ROUND & SON, INC., CLEVELAND 39, OHIO

▲ For more details circle NED-918 E on enclosed inquiry slip ▲

For shaft mounted cam follower, guide, support or track roller bearings



Use McGILL Heavy Duty CAMROL® CYR Bearings

These precision heavy-duty cam yoke roller bearings are especially built to provide cam follower advantages for shaft or yoke mounting.
Sturdy roller retaining end plates are tightly fitted and secured to the end shoulders of the non-separable inner ring. An extra heavy outer ring withstands high shock loads. The full complement of precision ground small diameter rollers supports heavy loads in small radial space.
Standard roller diameters from 3/4" to 4" cost less than improvised units.

Write for helpful Bearing Handbook No. H-54-B

engineered electrical products McGILL® precision needle roller bearings

McGILL MFG. CO., Bearing Div., 101 N. LAFAYETTE ST., VALPARAISO, IND.

▲ For more details circle NED-919 E on enclosed inquiry slip ▲

YOU CAN'T LOSE if OSPHO® Doesn't Do What We Say

Order 5 gallons of OSPHO. Try it on any rusted metal. We'll cancel the invoice if OSPHO does not kill the rust . . . stop rust action . . . provide a sound base for your regular maintenance paint.

OSPHO is *not* a primer, *not* a paint. It is a phosphoric metal treatment that changes rust (iron oxide) to iron phosphate—a perfect surface for paint coat that follows. A gallon treats up to 600 sq. ft.

Brush or spray OSPHO right on rusted metal.

READ, FILL-IN AND MAIL THE COUPON

RUSTICIDE PRODUCTS CO.
3131 Perkins Ave. • Cleveland 14, Ohio

Ship us 5-gal. pail of OSPHO @ $3.40 per gal. (F.O.B. Cleveland). If it does not do what you claim, we'll notify you within 30 days of receipt. You will cancel the invoice.

Name_____ Title_____
Company_____
Address_____
City_____ Zone____ State_____

▲ For more details circle NED-920 E on enclosed inquiry slip ▲

It's Easy to Run D-C Shunt and Compound Motors from A-C Lines *with* VARIAC® Motor Speed Controls

Check These Advantages

★ Convenience of a-c power with excellent starting characteristics and good regulation of d-c motors

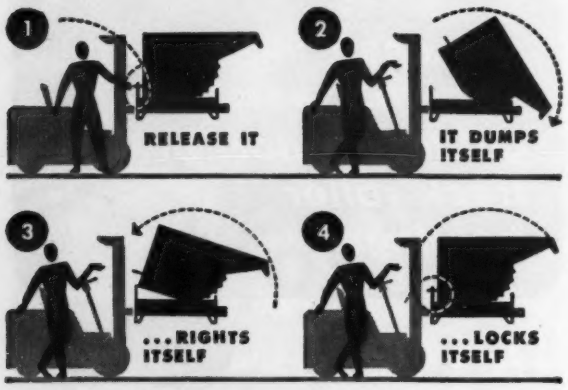
★ Rated Torque at any motor speed from rated to stalling
★ NO torque pulsations
★ Practically instantaneous Start-Stop-Reverse with one switch — dynamic braking on most models
★ Smooth, practically stepless speed variation
★ No warm-up required — no electron tubes — extra long life
★ Very simple installation — negligible maintenance — low first cost

Ten models from 1/15th to 3/4 hp. Illustrated is Type 1701-AK for d-c motors up to 1/15th hp: $95.00

Write for VARIAC MOTOR SPEED BULLETIN for Detailed Data

GENERAL RADIO COMPANY
WEST CONCORD, MASSACHUSETTS
Broad Avenue at Linden, Ridgefield, N. J. NEW YORK AREA 1000 N. Seward St. LOS ANGELES 38
8055 13th St., Silver Spring, Md. WASHINGTON, D. C. 1150 York Road, Abington, Pa. PHILADELPHIA
1186 Los Altos Ave., Los Altos, Calif. SAN FRANCISCO 6605 W. North Ave., Oak Park, Ill. CHICAGO
In CANADA: 99 Floral Parkway, TORONTO 18

▲ For more details circle NED-923 E on enclosed inquiry slip ▲



Makes every truck a dump truck

It's a self-dumping hopper for fast, efficient handling of wet or dry, hot or cold bulk materials such as scrap metal, cinders, cullet, hot forgings and castings, punch press parts. Pickup is swift and simple. Forks or platform of any standard lift truck slide easily into hopper underframe. Operator picks up loaded hopper . . . transports it to destination . . . flips the latch . . . and the Roura does the rest . . . automatically. Easily cuts costs 50%. Made of ⅛" steel plate with continuous arc-welded seams. Also available in stainless steel or galvanized. Five sizes, ½ to 2 cubic yards. Standard models available for immediate shipment. Write for literature. ROURA IRON WORKS, INC. 1415 Woodland Ave., Detroit 11, Mich.

ROURA *Self-Dumping* HOPPER

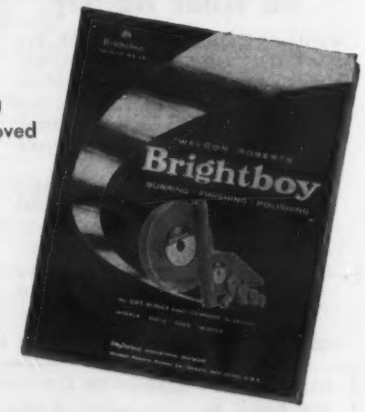
▲ For more details circle NED-924 E on enclosed inquiry slip ▲

GET THE NEW, COMPLETE PICTURE

on MULTI-USE, SOFT RUBBER BONDED ABRASIVES —THE ONLY COMPLETE, COMPREHENSIVE STOCK LINE!

The revealing new medium for achieving bigger savings, improved product quality, in metal-working.

The revolutionary new concept of abrasive uses!



Write for new Brightboy Catalog listing "Job-Matched" grains & textures; machine speeds, refreshing methods and applications.

WELDON ROBERTS Brightboy RUBBER CUSHIONED ABRASIVES

BRIGHTBOY INDUSTRIAL DIVISION
WELDON ROBERTS RUBBER CO.
95 North 13th Street
Newark 7, N. J.

America's Pioneer Manufacturer of Rubber-Bonded Abrasives

▲ For more details circle NED-925 E on enclosed inquiry slip ▲

New Literature & Catalogs

Infrared Heating

Fostoria Corp., Infrared Div. —Among the uses for Fostoria infrared ovens are baking, drying, dehydrating, preheating, and degreasing. These, and many more, are listed in 20-page illustrated catalog "Radiant Heat Applications Unlimited." Principles of this type of heating are discussed and the equipment itself is detailed.

▲ For more details circle NED-926 E on enclosed inquiry slip ▲

Spring Materials

H. K. Porter Co., Riverside-Alloy Metal Div.—"Spring Materials Digest" is an 8-page handbook discussing the various spring properties of several groups of metal alloys, including copper-base, nickel-base, and stainless steels. Included are comparison charts and tables.

▲ For more details circle NED-927 E on enclosed inquiry slip ▲

Industrial Radiant Heaters

Corning Glass Works—Vycor tubular heater and Pyrex electric panel heater, both of which emit far infrared radiant energy, are subject of 14-page illustrated Booklet PE-70. Up to 90 per cent of the emitted energy is absorbed in drying, heating, baking, and curing applications. Operation information is included, along with installation pointers.

▲ For more details circle NED-928 E on enclosed inquiry slip ▲

Power Hand Tools

Skil Corp.—Extensive line of electric and pneumatic hand tools is subject of illustrated 1960 catalog. Included for use in industrial production, plant maintenance, wood and metalworking, and other service are sanders, grinders, blowers, hole saws, chain and portable saws, wrenches, polishers, hammers, nut and screwdrivers, and accessories for these and other tools.

▲ For more details circle NED-929 E on enclosed inquiry slip ▲

Motor Operators & Motorized Valves

Schade Valve Mfg. Co.—Catalog 407 contains 24 pages of information on a complete line of electric motor operators and motorized valves for process, industrial, and other types of service. Introduced for the first time is a reversible, proportional operator which has instant braking.

▲ For more details circle NED-930 E on enclosed inquiry slip ▲

Structural Adhesives & Design Concepts

Minnesota Mining & Mfg. Co., Adhesives & Coatings Div.—Information on Scotch-Weld structural adhesives and design concepts, joint design, and bonding methods is contained in 16-page file-tabbed manual. Tables and line drawings explain how and where to use Scotch-Weld film, one-part heat curing, and two-part chemical curing adhesives in structural assemblies for all types of equipment.

▲ For more details circle NED-931 E on enclosed inquiry slip ▲

Aluminum Bearing Data

Aluminum Co. of America—"Alcoa Bearings" is title of 90-page study on aluminum bearings which range in size from bushings no larger than a fingertip to gigantic 4-ft diameter cylinders weighing ¾ ton and supporting 5-million-lb loads. This manual is a collection of case histories, engineering guidance, and performance data on these light metal sleeve bearings and bushings.

▲ For more details circle NED-932 E on enclosed inquiry slip ▲

A New Prefinished Metal

Clad-Rex Corp.—Clad-Rex is described in 8-page bulletin as a new prefinished metal which has lastingly beautiful surface textures; high abrasion, acid, alkali, and corrosion resistance; and ease of fabrication without special tooling. This vinyl-metal laminate is offered in steel, aluminum, and alloys of various gages and sizes with various thicknesses of vinyl in range of colors and textures. It is usable for products ranging from appliances and furniture to automotive trim and luggage.

▲ For more details circle NED-933 E on enclosed inquiry slip ▲

Air-Powered Hydraulic Dockboard

Freightliner Corp., Allied Products Div.—A.I.A. File 35-i-141 contains complete specification, installation, design, and performance data on a new air-powered hydraulic dockboard designed for use in terminals, warehouses, manufacturing plants, and other buildings where a volume of materials is loaded or unloaded from trucks. Usable in new or existing installations, Aero-Board 57 x 60-in. dockboards have 10,500-lb rating and cost only $410 ready to install.

▲ For more details circle NED-934 E on enclosed inquiry slip ▲

NEW JUNIOR SIZE VIBRA-WASHER

GIVES YOU AUTOMATIC PROCESSING OF METAL PARTS

LABOR SAVING
READILY ADAPTABLE TO MANY OPERATIONS
NO NESTING OF PARTS DURING CLEANING OR CONDITIONING CYCLE
ADJUSTABLE CAPACITIES
ELECTRIC—GAS—STEAM HEATING ELEMENTS

The new Simplicity Junior Size Vibra-Washer employs a vibrating work carrier that automatically conveys metal parts through a cleaning or conditioning bath. It cleans so thoroughly that chips, oil and grease are removed from even blind or slotted openings; cleans so gently even the most delicate threads or flanges are not harmed.

If you have a tough cleaning or conditioning job, Simplicity Engineering Company can help. For information, write or call the Industrial Washer Division.

223

Simplicity TRADE MARK REGISTERED
ENGINEERING COMPANY • DURAND 15, MICH.
FOR CANADA: Simplicity Materials Handling Limited, Guelph, Ontario

▲ For more details circle NED-935 E on enclosed inquiry slip ▲

Only Weston brings you

SUCH A FEATURE-FULL THERMOMETER

- Rugged all-stainless-steel construction, **including** welds!
- In-line scales and pointers **eliminate** parallax error!
- Removable bezel permits quick **on-the-job** window replacement!
- New gasket material provides **extra-tight** sealing power!
- Guaranteed accuracies — **within** ± 1% of range!
- Standard **external** adjustment feature!
- **Full line** of standard sizes, stem lengths, ranges!

THE NEW WESTON '4000 SERIES' HEAVY-DUTY BI-METAL THERMOMETERS

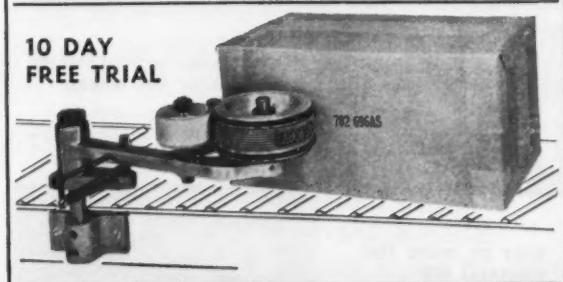
FOR NEW FREE LITERATURE giving full details, and name of local distributor, contact your nearby Weston representative . . . or write to Weston Instruments Division, Daystrom, Incorporated, Newark 12, N. J. In Canada: Daystrom Ltd., 840 Caledonia Rd., Toronto 19, Ont. Export: Daystrom's International Sales Division, 100 Empire St., Newark 12, N. J.

DAYSTROM, INCORPORATED
WESTON INSTRUMENTS DIVISION
World leader in measurement and control

▲ For more details circle NED-936 E on enclosed inquiry slip ▲

NEW *LEADER* IN CONVEYOR LINE MARKING

10 DAY FREE TRIAL



THE PRYOR ROCKET

- Trouble free, non-stop "friction" operation—self inking
- Interchangeable rubber type. Easy-to-read impressions. Quick copy changes.
- Surprising low cost—saves expensive hand marking or large inventories of pre-printed cartons
- New simplified design—easier disassembly and inking. Rocket 1 prints up to 1 inch height. Rocket 2 prints up to 2 in. height
- Durable aluminum construction.

Write for FREE trial—specify model

IMPRINTS CODING, DATES, DATA ON:
- CARTONS
- BAGS
- ROLLS
- CANS
- DRUMS

Do you have a marking problem? Consult us.

PRYOR MARKING PRODUCTS
434 S. Wabash Ave., Chicago 4, Ill.
Some sales territories open for qualified representatives

▲ For more details circle NED-937 E on enclosed inquiry slip ▲

NEW CHROMALOX Electric Concrete Heater

keeps snow and ice off sidewalks, steps, driveways

No shoveling...
no salt...
no cinders...

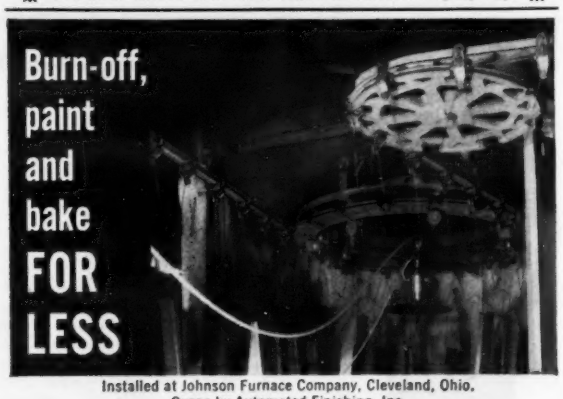
FAST INSTALLATION. Just unroll the mat in form before pouring top layer of concrete. Size 6′ x 18″ and 10′ x 18″ mats may be connected end-to-end or side-by-side.

ECONOMICAL. Six ft. length only $21.95, ten-ft. length $24.95. Operating cost is amazingly low for any application.

Write for folder and name of distributor

CHROMALOX ELECTRIC HEAT
Edwin L. Wiegand Company
7509 Thomas Boulevard • Pittsburgh 8, Pa.

▲ For more details circle NED-938 E on enclosed inquiry slip ▲



Installed at Johnson Furnace Company, Cleveland, Ohio.
Ovens by Automated Finishing, Inc.

AMERICAN "CABLE-WAY"

costs less per conveyor-foot

This customer-installed American "Cable-Way" conveyor carries warm-air furnace parts thru a 600° burn-off oven, an electrostatic spray, a 325° bake oven, and finally to assembly bays. Total length, 1200 feet.

Rugged, yet lower in cost due to all-bolted 2″ x 2″ x ¼″ inverted T-rail and lightweight cable. Trolleys can be selected to fit the load, from 80, 125, 160 or 250 lb. capacities. Write for Catalog CD-B.

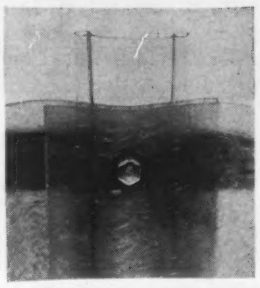
© THE AMERICAN MONORAIL CO. • 1960

CONVEYOR DIVISION
THE AMERICAN MONORAIL CO.
Fourth & Franklin Streets • Tipp City 7, Ohio

▲ For more details circle NED-939 E on enclosed inquiry slip ▲

New Processes & Materials

PANEL SEALING STRIP for corrugated plastic, metal, glass



Two "air cushion" beaded edges of Dual Seal vinyl Lap-seal furnish a compressive weather-tight seal on side-lapped materials without calking. The clear sealing strip is usable on corrugated plastic panels, metal, and corrugated glass roofing and siding sheets and skylights. Material will not harden or crack under temperature extremes, and light transmission is not impaired. Fifty-foot rolls are made in 1, 2, and 3-in. widths. • **Fabricated Products Co.,** Water Street, West Newton, Pa.

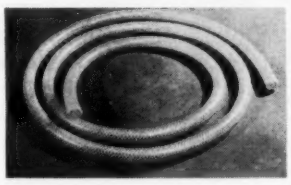
▲ For more details circle NED-941 E on enclosed inquiry slip ▲

GASKET MATERIAL of fiber-reinforced Teflon

Excellent stability to corrosive gases and liquids under both high and low temperature conditions is exhibited by Vistex III, a synthetic fiber-reinforced Teflon gasket material. It is available in sheet form up to 30 x 60 in. and in ⅛, 1/16, 1/32, 3/32, and 1/64 in. thicknesses. Well suited for gaskets where light weight is a factor, material has 84 lb per cu ft density and minimum tensile strength of 1000 psi. At 300° F, it retains 620 psi tensile, and at 430° F loses only 105 psi. With 100 per cent compression recovery, material can be precision cut or punched into gasket strips or washers. It resists acids, alkalies, and aliphatic and aromatic compounds. • **American Felt Co.,** 2 Glenville Rd., Glenville, Conn.

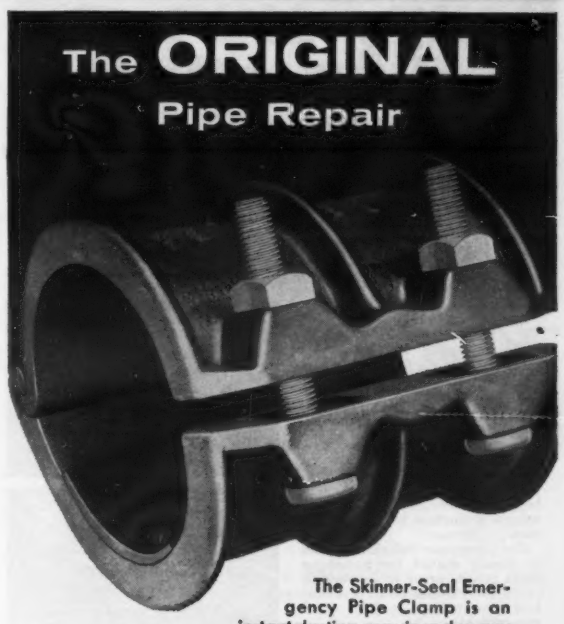
▲ For more details circle NED-942 E on enclosed inquiry slip ▲

HIGH PRESSURE PLASTIC HOSE for air, fuel, and oil line



Reinforcing this transparent polyvinyl chloride hose with open mesh nylon enables it to withstand high pressures. The nylon braid is not exposed to the interior or exterior surface. Hose resists gasoline, sea water, oils, high octane fuels, butane gases, and most chemical solutions. Working temperature range is −5 to 170° F. Bursting pressures range from 1500 psi for ⅛-in. ID hose to 800 psi for ½-in. ID hose. Standard sizes are from ⅛ to 1¼-in. ID. Conventional fittings are used on air line, pneumatic equipment, fuel pressure and oil lines, and machinery applications. • **Newage Industries, Inc.,** 222 York Rd., Jenkintown, Pa.

▲ For more details circle NED-943 E on enclosed inquiry slip ▲



The Skinner-Seal Emergency Pipe Clamp is an instant, lasting repair under any operating condition. Rugged malleable iron. Anyone can apply in a few moments. Made in all sizes, ½″ to 12″, for steel and C. I. pipe. Stocked by practically all supply stores. The leading clamp for over 50 years.

M. B. SKINNER CO., South Bend 21, Ind. — Established 1898

▲ For more details circle NED-944 E on enclosed inquiry slip ▲

REULAND

motor-and-magnetic -brake package

...complete from one dependable source!

Reuland manufactures its own magnetic brakes, as well as electric motors, and offers the most versatile selection of tailored-to-your-equipment brakemotor packages available anywhere. Reuland's many hundreds of combinations of H.P., speed, special drive motors and brake sizes, provide an almost unlimited coverage of O.E.M. and user requirements!

So, whatever your brakemotor needs may be, standard or special, let Reuland supply the complete answer in one, compact, smartly-designed power package. One source of supply for brake and motor saves time for your Engineering and Purchasing Departments...one nameplate establishes dependable, nationwide service responsibility!

Brakes available in all 3 mountings
...fulfills J.I.C. specifications!

Our new 8-page catalog, No. GS8-30-0, will come in handy. Sent complete with prices and engineering drawings on request. Refer to Sweet's Product Design, Section 5-a.

MODERN POWER FOR MODERN-DAY PRODUCTS
...all in lightweight, cool-running aluminum frames!

REULAND MOTORS

REULAND ELECTRIC COMPANY
WESTERN DIVISION: *Alhambra, Calif.* EASTERN DIVISION: *Howell, Mich.*
Distributors in all principal cities

▲ For more details circle NED-945 E on enclosed inquiry slip ▲

miller WELDERS

BIG TWIN 250 AC/DC

LITTLE TWIN 180 AC/DC

AND BOTH MILLERS ...*Through and Through*

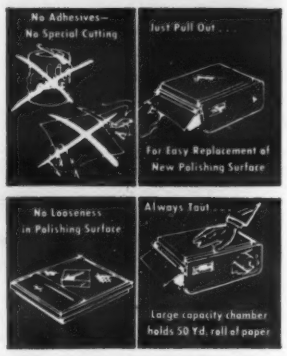
BIG TWIN combination ac-dc welders work from single phase service — deliver new convenience and economy. Two a-c amperage ranges of 20-125 and 60-290 plus two d-c ranges of 18-100 and 65-290 amps master nearly every welding requirement from light gauge metal to structural pieces. Movable shunt type transformer affords infinite current adjustments. Other features include: Horizontal design for easy stacking; weather-resistant construction and Class B insulation; Miller-built semi-metallic rectifier for best d-c welding; high open circuit voltages and new weld stabilizer. This is THE all-time, all-around welder!

LITTLE TWIN ac-dc combination welder has two a-c amperage ranges of 20-115 and 60-180 plus one d-c range of 40-150. Operating from single phase service, this Miller model incorporates many design and construction features usually found only in large industrial types. These include really rugged construction, forced air cooling, new Miller semi-metallic rectifier, movable shunt type current control, new weld stabilizer and open circuit voltage in abundance. Power factor correction is available on both models. Complete specifications on either model will be sent promptly upon request.

miller ELECTRIC MANUFACTURING COMPANY, INC., APPLETON, WISCONSIN
Distributed in Canada by Canadian Liquid Air Co., Ltd., Montreal

▲ For more details circle NED-940 E on enclosed inquiry slip ▲

4 reasons why the LAPMASTER portable polishing stand *Simplifies Polishing*



Makes polishing much easier because it holds polishing paper taut and wrinkle-free . . . *always.* Provides replacement of worn paper with new section . . . *immediately.* Steel stage has been lapped to precision flatness to assure a perfect polishing surface . . . *forever.*

The Lapmaster Polishing Stand is ideally suited for polishing work pieces prior to inspection . . . in the experimental mechanical laboratory . . . and for small run polishing jobs.

Get further facts and details . . . Write for copy of Bulletin L-410.

Lapmaster — THE MACHINE THAT PUT PRECISION LAPPING ON A PRODUCTION BASIS

A PRODUCT OF
CRANE PACKING COMPANY
6411 OAKTON STREET
MORTON GROVE, ILL. (*Chicago Suburb*)
In Canada:
Crane Packing Co., Ltd., Hamilton, Ont.

▲ For more details circle **NED-946 E** on enclosed inquiry slip ▲

Longer Ladder Life!

lightweight ladders made of long-life REYNOLDS ALUMINUM

Aluminum ladders offer more service with less weight. Size for size, they are *stronger* than steel, *safer* than wood, and aluminum's light weight makes handling easy!

Ladders made of Reynolds Aluminum give you longer service. They won't warp, split, rot or splinter. Corrosion resistant and rust-free, aluminum ladders provide lasting strength and durability.

Step up your savings with ladders and scaffolds made of Reynolds Aluminum. For names of leading manufacturers, write direct, *Reynolds Metals Company, P.O. Box 2346-NO, Richmond 18, Virginia.*

Watch Reynolds TV shows: "ADVENTURES IN PARADISE", "BOURBON STREET BEAT" and "ALL STAR GOLF"—ABC-TV

▲ For more details circle **NED-947 E** on enclosed inquiry slip ▲

New Literature & Catalogs

Cases, Chests & Housings

MM Enclosures, Inc.—Included in catalog on military cases, portable cases, and housings are reproducible vellums detailing construction and dimensions. Applicable Military specs as well as data on industrial cases are included. Company is equipped to contract manufacture panels, cabinets, chassis, manifolds, and many other sheet metal products.

▲ For more details circle **NED-948 E** on enclosed inquiry slip ▲

Tools for Countersinking

Cleveland Twist Drill Co.—"How to Get Better Countersunk Holes at Lower Cost" is title of 4-page bulletin. Described are single and three-flute high speed countersinks with body diameters of 1/4 to 1 1/2 in. and included angles up to 120 degrees. Carbide tipped types are also covered.

▲ For more details circle **NED-949 E** on enclosed inquiry slip ▲

"Inventories & Business Health"

Under the above title, Vice President Roy A Foulke of Dun & Bradstreet, presents 64 pages of facts, figures, tables, and guidance on the important subject of inventories. He states that inventories have been called the graveyard of American business because they have so frequently been the prime cause of business failures and voluntary liquidations. Causes of inventory loss are explained. Tables cover 14 important median ratios from 1954 to 1958 for 70 lines of business activity. Price is $1. Order direct from Dun & Bradstreet, Inc., Box 803, Church Street Station, New York 8, N. Y.

▲ For more details circle **NED-950 E** on enclosed inquiry slip ▲

Warm Air Heaters

Wanson Corp.—Thermobloc packaged warm air heaters are available in oil, gas, and combination fired types in capacities from 300,000 to 1,250,000 Btu per hr. They produce heat automatically and direct it where needed in industrial plants and other locations. Capsule data are given in 4-page A.I.A. File 30-C-43.

▲ For more details circle **NED-951 E** on enclosed inquiry slip ▲

Products That Stick

Mystik Adhesive Products, Inc.—Pressure-sensitive tapes, adhesives, coatings, and other related products are described and cross-indexed in the "Mystik Industrial Manual." Data on application procedures as well as "where to use it" information is presented on many new as well as standard products.

▲ For more details circle **NED-952 E** on enclosed inquiry slip ▲

Purchasing Techniques

General Electric Co.—"Productive Purchasing" is the title of Bulletin GED-3877 which describes the methods used by G-E to improve its own purchasing by a more scientific application of analysis techniques. Included is a scaled checklist for evaluating equipment suppliers. Also covered are integration of the purchasing effort with other business functions and streamlining purchasing procedures.

▲ For more details circle **NED-953 E** on enclosed inquiry slip ▲

Pump Application Manual

Understanding centrifugal pump operation and intelligent selection of pumps are two aims of 227-page illustrated "Centrifugal Pump Application Manual." It discusses the many factors involved in handling a broad range of liquids under widely differing industrial conditions. Included are reprints of the centrifugal pump and data sections of the Standards of the Hydraulic Institute. Price is $5. Write to Buffalo Forge Co., Buffalo Pumps Div., Dept. 36, 490 Broadway, Buffalo, N. Y.

▲ For more details circle **NED-954 E** on enclosed inquiry slip ▲

Instrument Digest

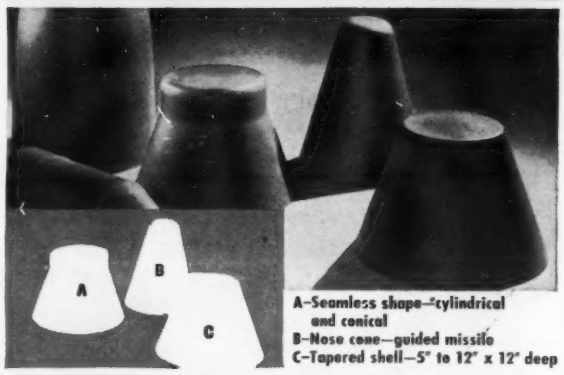
James G. Biddle Co.—Briefalog 19-60-22 is easy-to-use condensed information guide to Megger electrical resistance testers, dielectric test sets, cable fault locating equipment, motor testers, resonant reed frequency meters, Frahm tachometers, speed measuring instruments, and other test equipment. Included are postcards to obtain more detailed information on specific instruments.

▲ For more details circle **NED-955 E** on enclosed inquiry slip ▲

Re-usable Hose Fittings

Anchor Coupling Co.—Distributor Catalog D-1 contains latest information on the complete line of Anchor re-usable hydraulic couplings, hose, and fittings. Assembly instructions for hoses of every type as well as application data are included.

▲ For more details circle **NED-956 E** on enclosed inquiry slip ▲



A–Seamless shape–cylindrical and conical
B–Nose cone—guided missile
C–Tapered shell—5" to 12" x 12" deep

Dimensional sketches are all we need...

to give you an idea of the cost of producing the shapes or shells you need by Hackney methods. Our methods can save weight, speed production and assembly, improve reliability.

Hackney makes spherical, cylindrical, conical and tapered shapes. Sizes: 1 qt. to 100 gal. Diameter: 3" to 32". Wall thickness: for working pressures from 100 to 6000 psi. Metals: steel, nickel, magnesium, the new ultra-high-strength stainless steels, hot work tool steels, molybdenum and titanium.

Send your sketches, or write for more details, to the address below.

Hackney MILWAUKEE
Pressed Steel Tank Company
Manufacturer of Hackney Products
1450 South 66th Street, Milwaukee 14, Wisconsin
Branch offices in principal cities

CONTAINERS AND PRESSURE VESSELS FOR GASES, LIQUIDS AND SOLIDS

▲ For more details circle **NED-957 E** on enclosed inquiry slip ▲

EXACT WEIGHT®

HEAVY DUTY BENCH SCALE

Exact Weight 9600 Series Bench Scale has many of the features normally incorporated in scales offered at considerably more money. Provides speed, accuracy, economy. Big dial, 20¼" overall diameter, for quick direct reading . . . non-tippable platform . . . large platform area. Capacities: 50 lbs., 100 lbs., 200 lbs. and 300 lbs.

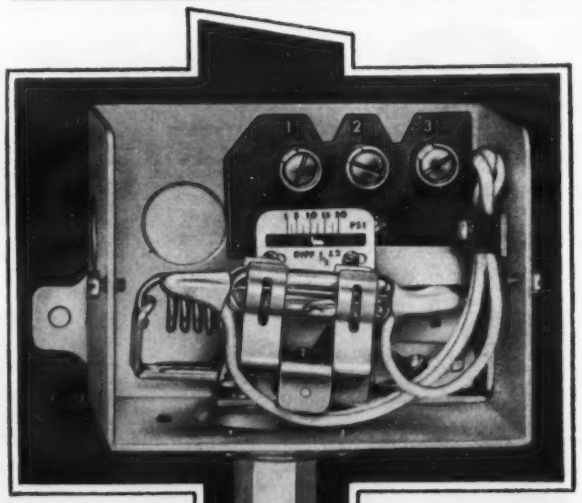
REQUEST FORM 3415

Find us in your local 'Yellow Pages'

Sales and Service Coast to Coast

THE EXACT WEIGHT SCALE CO.
930 W. FIFTH AVE., COLUMBUS 8, OHIO
In Canada: 5 Six Points Road, Toronto 18, Ont.
BETTER QUALITY CONTROL...BETTER COST CONTROL

▲ For more details circle **NED-958 E** on enclosed inquiry slip ▲



SMALL IN SIZE

LIGHT IN WEIGHT

MERCOID PRESSURE CONTROL

A new SP-DT pressure control for use with mediums not injurious to steel or silver solder. Has outside adjustments, calibrated dial. Provides any of the following operations—SP cut-in high, SP cut-in low or SP-DT operation. Operating ranges 1-20 or 1-30 PSIG.

Write for Bulletin 02·

THE MERCOID CORPORATION
4209 Belmont Ave., Chicago 41, Ill.

▲ For more details circle **NED-959 E** on enclosed inquiry slip ▲

IF
... you are introducing a new product
... you are redesigning a former model
... you are interested in saving production dollars

... WLS SHORT RUN STAMPING MAY BE OF HELP TO YOU

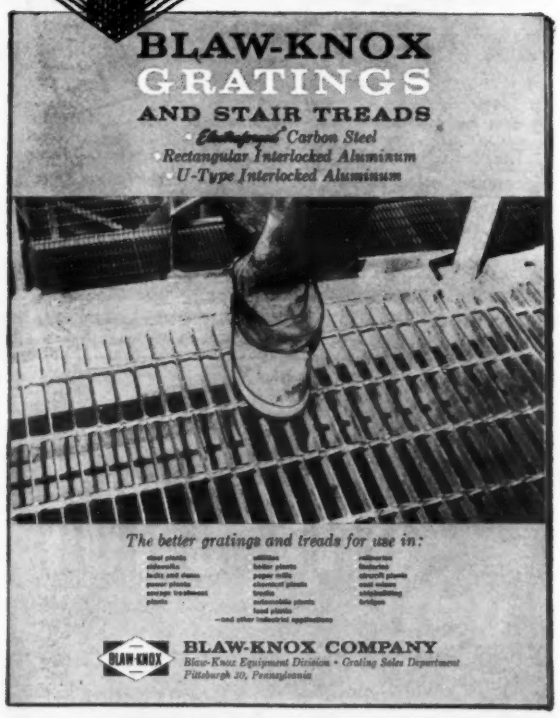
COMPLETE FACILITIES
- Blanking
- Forming
- Piercing
- Drawing
- Extruding
- Stenciling
- Countersinking
- Plating
- Machining
- Painting
- Grinding
- Welding

FREE
For those manufacturers who are faced with manufacturing problems, we offer a free bulletin illustrating many stampings we have produced, as well as a sample and cost summary of an actual part. We also offer free quotations from your blueprints at any time.

WLS Will Lead to Savings!
STAMPING COMPANY
Charter Member of Small Lot Stamping Institute
3287 E. 80th Street • Cleveland 4, Ohio

For more details circle NED-960 E on enclosed inquiry slip

FAST FACTS ON BLAW-KNOX GRATING



A NEW DATA FILE for fast information on designs and specifications of Blaw-Knox Grating and Stair Treads

The whole story compacted into eight pages for quick reference ■ New Specifications ■ Latest Installation Methods ■ New Fabricating Methods

To get your FREE copy, write!
Blaw-Knox Equipment Division
Pittsburgh 38, Pennsylvania

BLAW-KNOX GRATING

For more details circle NED-961 E on enclosed inquiry slip

New Processes & Materials

HEAT RESISTANT PAINT withstands temperatures to 1700° F

Steel jibs, fixtures, and formed products are protected during brazing and welding operations by Heat-Rem H-170 Super heat resistant paint. Available in both aluminum and clear vehicles, paint withstands temperatures up to 1700° F. In addition to spraying, paint can be dip or brush-applied. It is available in 1 and 5-gal cans only. • Speco, Inc., 7308 Associate Ave., Cleveland 9, Ohio.

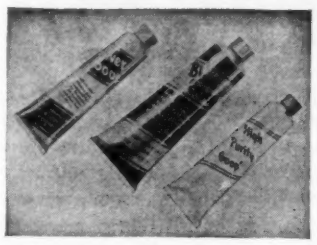
For more details circle NED-962 E on enclosed inquiry slip

SILICONE RESIN COATING insulates and protects

One-component insulating and protective HumiSeal 1H34 coating is formulated for high temperature, heavy-duty service in military and industrial applications, particularly where radioactive environment is involved. The silicone resin based coating has 6-month pot life and excellent electrical properties at temperatures above 400° F. It can be spray, dip, or brush applied. • Columbia Technical Corp., 61-02 31st Ave., Woodside 77, N. Y.

For more details circle NED-963 E on enclosed inquiry slip

ANTISEIZE COMPOUNDS three types seal and lubricate



Silver Goop, one of three antiseize and lubricating compounds, prevents seizing and galling on threaded parts, regardless of applied load, at temperatures up to 2100° F. It will not drip off red-hot surfaces and resists water washout: Blue Goop antiseize and sealing compound for use on titanium, stainless steel, steel, aluminum, and high temperature alloys withstands 400° F. It is impervious to water washout, most acids, and all petroleum solvents. Third product, High Purity Goop, is an antiseize and sealing compound for titanium, stainless steel, aluminum, and high temperature alloys at up to 400° F. It resists moisture, high voltage and cyclic thermal stress, and is suited for use where product contamination must be prevented. • Crawford Fitting Co., 884 E. 140th St., Cleveland 10, Ohio.

For more details circle NED-964 E on enclosed inquiry slip

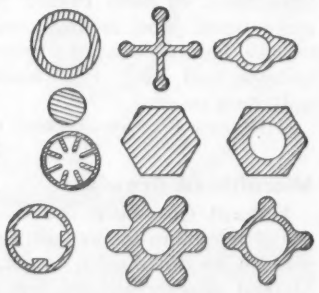
PAINT STRIPPERS for acrylic and epoxy finishes

High speed stripping of acrylic and epoxy paints is possible with a special line of strippers. They are formulated to the paint to be stripped, since all finishes are not alike. Each application should be submitted for recommendation of the proper stripping product. • Detrex Chemical Industries, Inc., Chemical Processing Div., Box 501, Detroit 32, Mich.

For more details circle NED-965 E on enclosed inquiry slip

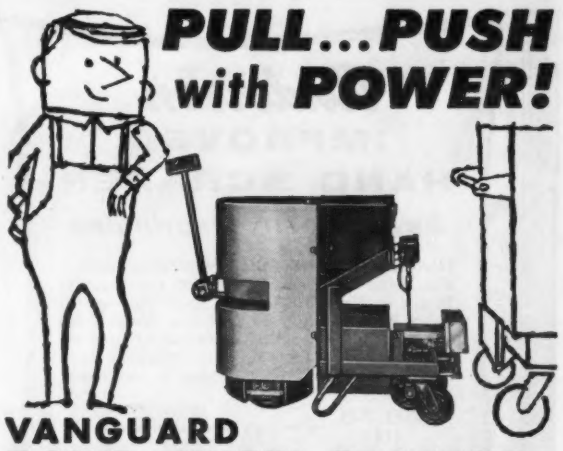
EXTRUDED METAL SHAPES in diameters from 1 to 8 in.

Wide variety of extruded copper base alloy shapes in various diameters from 1 to 8 in. and in 10-ft lengths is now being produced by this company. Facilities also permit secondary and hot and cold forming operations to achieve shapes not obtainable by conventional extrusion processes. Quality control assures uniformity, excellent grain refinement, and close dimensional tolerance of the extrusions. • Janney Cylinder Co., State Road & Shelmire Street, Philadelphia 36, Pa.



For more details circle NED-966 E on enclosed inquiry slip

PULL... PUSH with POWER!



VANGUARD POWR-WHEEL TRACTOR
with electro-magnetic coupling
- Adaptable for almost all four-wheel trucks
- Rigid coupling allows push or pull movement, eliminates jack knifing
- Flip switch for instant coupling and uncoupling
- Makes all trucks highly maneuverable . . . handles heaviest loads
- Heavy duty battery: 400 amp hour, 12 volt system
- Choice of 3000 lb. GVW, or 8000 lb. GVW
- Also available with mechanical rigid coupling

Visit the Vanguard Space at the Material Handling Institute's regional show, June 6-8, 1960, Booth 507-511, Boston Armory

Vanguard
WRITE FOR A FREE CATALOG TODAY:
MANUFACTURING COMPANY
1908 E. 66th St., Cleveland 3, Ohio
Phone: HEnderson 2-0464

For more details circle NED-967 E on enclosed inquiry slip

This Allis-Chalmers 6,000-lb pneumatic paid for itself in its first 25 months according to the owner. Maintenance costs have been nominal — nothing beyond routine service.

THERE'S A dollar-saving difference IN ALLIS-CHALMERS LIFT TRUCKS
... and the difference grows by the hour

Sometimes it takes 10,000 hours or more to prove: No other lift truck can be expected to operate as steadily, as economically for as long a time as an Allis-Chalmers.

This is a conclusion reached by users who have kept detailed records of operation and maintenance costs. Many of their case histories are available for the asking.

Let your Allis-Chalmers dealer show you the many features that make the dollar-saving difference. Allis-Chalmers, Milwaukee 1, Wisconsin.

ALLIS-CHALMERS A-C
BH-134

For more details circle NED-968 E on enclosed inquiry slip

ANOTHER PANNIER MASTER MARKER!

PANNIER'S INSPECTORS' HAMMERS WEAR LONGER
Many styles and sizes for metal marking. Letters, numbers or symbols on either or both ends; interchangeable type heads available.

Write for data.

MONEY-SAVING FEATURES:
- Sturdy, balanced construction
- Long-lasting tool steel head
- A style for every (any) need
- Sharp, clean marking

BIRTHMARKED MATERIALS
MARKING DEVICES
THE PANNIER CORPORATION
301 PANNIER BUILDING PITTSBURGH 12, PA.
Offices: Los Angeles • Cleveland • Chicago • Philadelphia • Birmingham

For more details circle NED-969 E on enclosed inquiry slip

Anderson
IMPROVED HAND SCRAPER
Saves Costly Regrinding

Here are just a few of the advantages of Anderson Hand Scrapers (1) Faster Cutting, (2) Easier to Use, (3) Just the Right Spring, (4) Palm Fitting Grip, (5) Light in Weight, (6) 18" - 20" - 22" lengths. After the original regrinding most users of this new Anderson Hand Scraper find that only honing is necessary.

$6.75 (18") with high speed steel blades
$9.85 (18") with carbide-tipped blades
$1.75 for rubber bumper shown below

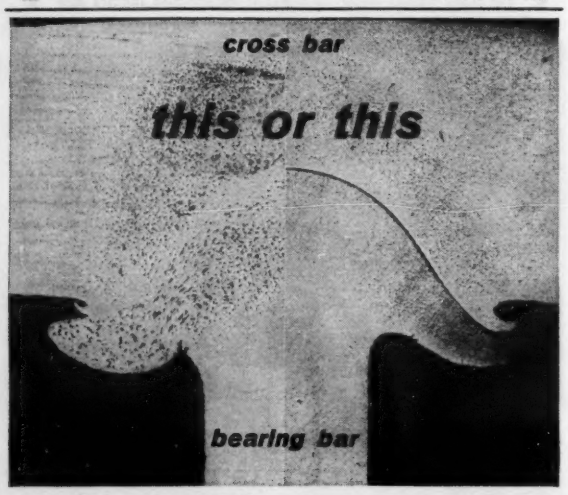
Order Today . . . Money-Back Guarantee

Judge for yourself: Order as many Model S-A Scrapers as you want. Use them a full week . . . if they don't do the job send them back to us for refund.

Write for Bulletin 5-40

ANDERSON BROS. MFG. CO.
ROCKFORD, ILLINOIS

▲ For more details circle NED-971 E on enclosed inquiry slip ▲



which weld for your grating?

Dravo Tru-Weld Grating. In this cross section of a crossbar-bearing bar weld, the metal has fused together. There are no gaps to admit moisture or weaken the joint. It cannot come apart.

In this piece of grating, fusion of metals is incomplete. There is a noticeable gap between bearing bar and crossbar. This leads to internal corrosion which weakens the joint, ups maintenance costs.

Complete stocks maintained at Jos. T. Ryerson Service Centers. For more information on this new, stronger grating, call the Dravo representative in your area, or write DRAVO CORPORATION, Pittsburgh 25, Pa.

DRAVO
CORPORATION

▲ For more details circle NED-972 E on enclosed inquiry slip ▲

MEASURE CO DIRECTLY
WITH THE
monoxor®
CARBON MONOXIDE INDICATOR

THIS REMARKABLY SIMPLIFIED INSTRUMENT INDICATES CARBON MONOXIDE PERCENT IN THE AIR SAMPLE TESTED BY MEASUREMENT OF CO-STAIN IN THE INDICATING TUBE.

- ✓ Requires no color matching — is independent of operator's color perceptiveness.
- ✓ Accurate and dependable over wide range of lighting conditions.
- ✓ Not affected by presence of other gases normally encountered in safety testing (nitrous oxide, sulphur dioxide, methane, etc.)

Range: 10 to 2000 PARTS CO per MILLION PARTS of AIR (0.001% to 0.2% CARBON MONOXIDE)

M-31 *For complete particulars, send for Leaflet 890A*

BACHARACH INDUSTRIAL INSTRUMENT CO., 200 N. BRADDOCK AVE., PITTSBURGH 8, PA.
Send me a copy of MONOXOR CO Indicator LEAFLET 890A

NAME _____ POSITION _____
COMPANY _____
STREET _____
CITY AND STATE _____

▲ For more details circle NED-973 E on enclosed inquiry slip ▲

New Literature & Catalogs

Direct Dialing Telephone Chart

Copperweld Steel Co., Ohio Seamless Tube Div.—Offered as a service to industry, a unique chart shows all "Direct Distance Dialing Telephone Codes" in use in the United States and southern Canada. It will simplify placing of long distance phone calls and was produced in co-operation with A.T.&T. and other phone companies. This map-code chart is free.

▲ For more details circle NED-974 E on enclosed inquiry slip ▲

Corrosion Resistant Ratings of Valves

Hydromatics, Inc.—Eight-page guide lists the relative ability of metals, plastics, and synthetic rubber used in Flo-Ball valves to resist the corrosive effects of 390 fluids encountered in industry.

▲ For more details circle NED-975 E on enclosed inquiry slip ▲

Guide to Pilot Lights

Dialight Corp.—24-page "Digest of Pilot Lights" uses condensed technical data as a guide to selection and application of Dialco pilot light assemblies and the lamps for which they were designed. Types and sizes for practically any need are described.

▲ For more details circle NED-976 E on enclosed inquiry slip ▲

Permanent Magnet Data

Indiana General Corp., Indiana Steel Products Div.—Superseding all previous Indox literature, Catalog 18A covers the entire line of Indox ceramic permanent magnets, including Types I, V, and VI. Properties, uses and applications are described. Included is a magnet selector chart, list of stock magnets, and a de-rating curve for low temperature operation.

▲ For more details circle NED-977 E on enclosed inquiry slip ▲

Office & Building Partitions

L. A. Darling Co., Workwall Div.—How one man, without special tools, can erect a complete set of partitions in offices or plants is shown and explained in 12-page "Installation Manual." Panels, posts, glass sections, baseboard, wireways and other features are detailed.

▲ For more details circle NED-978 E on enclosed inquiry slip ▲

Angle & Flexible Drilling Attachments

George A. Terry Co.—Catalog No. 60 is entitled "Angle and Flexible Drilling Attachments." In its 28 pages are data on 27 attachments for use with electric and pneumatic drills as well as on three different types of drill adapters, midget chucks, and other accessories. Types are available to solve practically every difficult drilling problem involving hard-to-get-at places.

▲ For more details circle NED-979 E on enclosed inquiry slip ▲

Cap Screws

Set Screw & Mfg. Co.—Complete specifications, dimensions, and data on the new 1960 Series of cap screws are presented in illustrated bulletin. How, when, and where to make the change to the new series is outlined.

▲ For more details circle NED-980 E on enclosed inquiry slip ▲

Designing V-Belt Drives

Boston Woven Hose & Rubber Co.—64-page illustrated "Industrial V-Belt Design Manual" contains pre-engineered tables to aid in designing V-belt drives. Included are V-belt drive selection tables, horsepower ratings and matching data, and descriptions of BostRon V-belts.

▲ For more details circle NED-981 E on enclosed inquiry slip ▲

Drying Systems for Industry

Drying Systems Co.—Custom engineered heat processing and air conditioning equipment for industry are pictured and described briefly in 8-page Bulletin G-1. Equipment for paint baking, coated paper drying, and glued wood panel drying; core and batch ovens; electrically heated furnaces; rotary dryers; phosphatizing systems; and spray type washers are among the installations covered.

▲ For more details circle NED-982 E on enclosed inquiry slip ▲

Microfilmed Drawings

Filmsort Co.—How the U. S. Signal Corps makes use of microfilm in preparing engineering drawings for world-wide distribution is detailed in 8-page manual. Method sharply reduces logistic and filing problems while, at the same time, presents a means for rapid access to other vital information.

▲ For more details circle NED-983 E on enclosed inquiry slip ▲

Hints on fluorescent starter selection

G-E FS-4NA STARTER BEST FOR NO-BLINK OPERATION IN HOT, HUMID AREAS

Where extreme heat and humidity create a problem in starting fluorescent lamps, switch to the General Electric FS-4NA starter — the starter created especially for these problem areas.

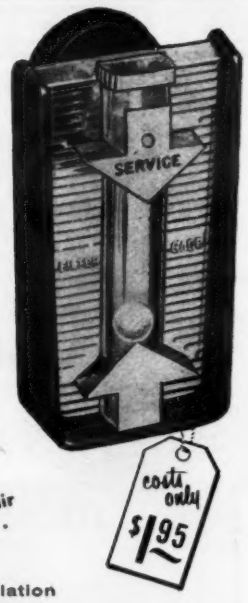
The G-E FS-4NA is an *automatic reset, no-blink* type starter for standard 40-watt fluorescent lamps.

Ask your G-E distributor for the "G-E Starter Selection Chart and Maintenance Guide for Fluorescent Lighting." General Electric Company, Wiring Device Department, Providence 7, R. I.

GENERAL ELECTRIC

▲ For more details circle NED-984 E on enclosed inquiry slip ▲

new... THE Dwyer Filter Gage



tells exactly when to change filters . . .
lasts indefinitely . . .
fits all furnace and air conditioning units . . .

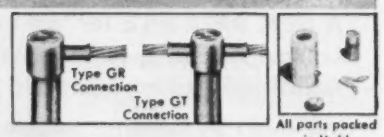
one hole, 60 second installation

Individually packaged with display/merchandising counter sales carton. A foolproof filter gage that really works, sold on a satisfaction or money-back guarantee. Write for free sample and discounts.

F. W. DWYER MFG. CO.
P. O. BOX 373-Q MICHIGAN CITY, INDIANA

▲ For more details circle NED-985 E on enclosed inquiry slip ▲

ERICO PRODUCTS, INC., has just introduced a new adaptation of the CADWELD (the original copper thermit principal) PROCESS of electrical connections, the "ONE-SHOT" Mold.



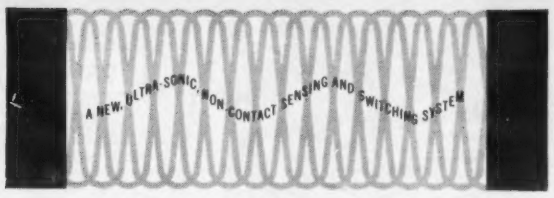
The world's finest permanent electrical connection has now been adapted to a one-time ceramic mold for cable to ground rod connections. Now a simple 3" package contains all materials necessary to make the connection that never corrodes or loosens and has a current carrying capacity greater than the conductors.

GROUND ROD	CABLE SIZE
1/2"	(#4 and smaller) (#2—#3)
5/8"	(#4 and smaller) (#2—#3) (1/0—#1)
3/4"	(#4 and smaller) (#2—#3) (1/0—#1)

For further information write ONE-SHOT % ERICO PRODUCTS, INC.

CADWELD Erico Products, Inc.
2070 E. 61st Place • Cleveland 3, Ohio
IN CANADA: ERICO INCORPORATED, 3071 Dundas St., West, Toronto 9, Ontario

▲ For more details circle NED-986 E on enclosed inquiry slip ▲



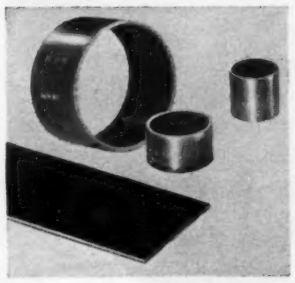
SONAC Here truly is a new dimension in automated controls! Delavan's new SONAC uses ultra-sonic energy for its "beam". This new concept offers many advantages over available sensing devices. SONAC has no lamps to burn out . . . nothing to replace . . . eliminates down time. SONAC is unaffected by vibration, dust, industrial contamination or ambient light. SONAC will sense ferrous and non ferrous metals, liquids or solids, transparent or opaque materials yet requires less power than an ordinary flashlight. These are just a few of SONAC's advantages.

Send for a complete descriptive booklet. There's no cost or obligation.

DELAVAN Manufacturing Company
WEST DES MOINES, IOWA

▲ For more details circle NED-987 E on enclosed inquiry slip ▲

NEW GLACIER DU* DRY BEARINGS



DU metal is an ideal bearing material for a wide range of applications. It withstands much higher velocities, runs much cooler than other unlubricated bearings at comparable low speeds . . . has a compressive strength of 51,000 p.s.i. DU metal is applied without the need for temperature-limiting adhesives . . . will withstand from −328°F to +536°F.

Apply DU material to appliances, automobiles, aircraft, farm and industrial machinery, office equipment. Standard bushings and thrust washers stocked for ⅜" to 2" shafts; strip available for special fabrication.

GARLOCK

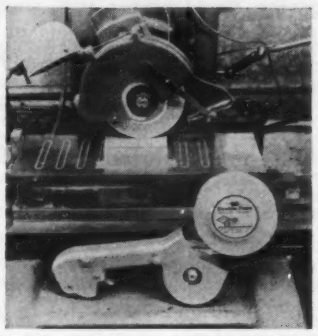
Find out more from your bearing manufacturer, or write for engineering catalog DU-458 directly to **Special Products Dept.,** United States Gasket Company, Plastics Division of Garlock Inc., Camden 1, New Jersey.

*Trademark, Glacier Metal Co. Ltd.

▲ For more details circle NED-988 E on enclosed inquiry slip ▲

New Processes & Materials

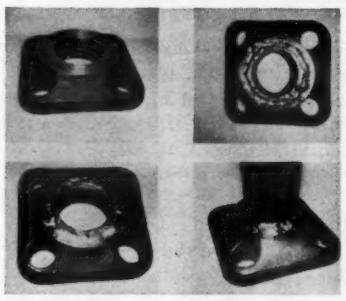
ADHESIVE FILM holds work for grinding



Translucent film with pressure-sensitive adhesive on both sides will hold nonferrous metals on magnetic chucks for surface grinding operations. By applying film directly to work, operator can place each piece exactly where he wants it. Adhesive qualities are unaffected by cooling solutions. The noncushioning film is available in rolls up to 72 yd long. Portable applicator shown in picture foreground enables operator to apply the film without touching it. • **Interchemical Corp.,** Finishes Div., 120 Potter St., Cambridge 42, Mass.

▲ For more details circle NED-990 E on enclosed inquiry slip ▲

CAST IRON WELDING PROCESS allows quench of deposit without cracking in repair, metal build-up



Cast iron can be welded in one-tenth the normal time by the three-step QuenchWeld process. Method uses a new electrode, the deposits of which can be quenched without danger of cracking. Suitable for thin or heavy casting sections, process allows repair of cracked or broken castings, filling of blowholes, building up worn or broken gear teeth, and joining of cast iron to steel.

In the first step, a chamfering electrode is used to vee out area to be welded and make grooves to break up stress concentration around the vee. Grooves are then filled and coated with a thin deposit from a sealing electrode. This assures strong bond of final deposit and seals the surface against grease, chemicals, and contaminants. In the third step, weld is completed with the QuenchTrode 24 electrode which provides a low carbon machineable deposit that resists cracking under fast cooling.

Photo sequence shows use of process for joining steel to cast iron. Top right picture shows antistress groove, whereas in the bottom left photo, groove has been filled. • **Eutectic Welding Alloys Corp.,** 40-40 172nd St., Flushing 58, N. Y.

▲ For more details circle NED-991 E on enclosed inquiry slip ▲

Mark in color on any surface

felt tip

CADO-MARKER

The finest inexpensive industrial marker your money can buy; and it's refillable!

Factory-filled with oil-based ink in choice of eight colors. Instant-dry – Waterproof – Permanent – Transparent

At stationers and marking equipment suppliers everywhere. For complete information, write to Dept. NED-5

CUSHMAN & DENISON Manufacturing Company • Carlstadt, New Jersey

Refills available

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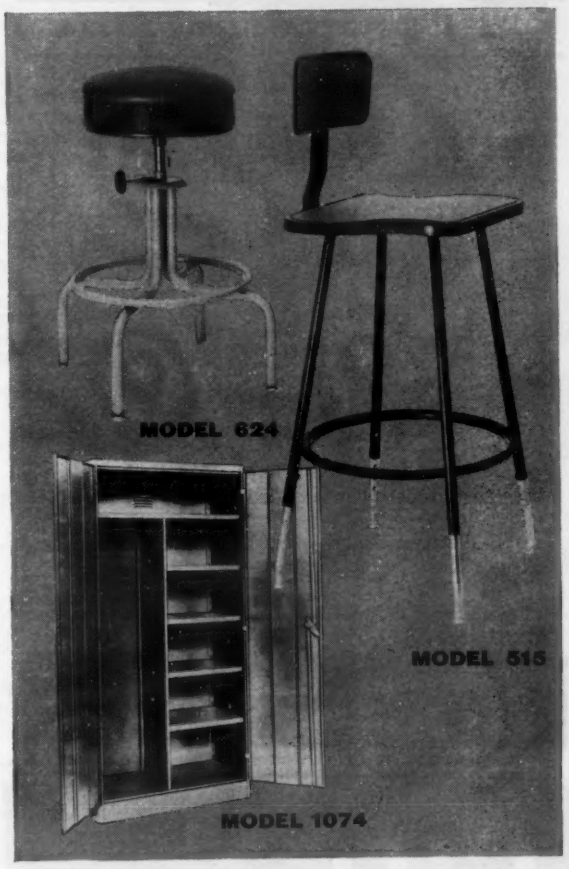


LITTLE THINGS MAKE ROYAL EQUIPMENT GREAT —and keep output high all day long

A Royal chair may look like others—but not to the worker who sits on one all day. A case in point—Model 515 above—America's foremost production stool. Its uncluttered lines hide a dozen features that help posture, comfort, and efficiency . . . the big, contoured, 4-way adjustable back is mounted on spring steel to respond to the slightest body movement . . . the legs telescope for height adjustment. There are no protrusions to cause injuries . . . ■ There are dozens of Royal chairs and stools for industry. Each the best for its specific purpose. ■ The same holds true for Royal cabinets. All corners are rounded, all hinges and fastenings concealed. The extra heavy gauge panels are flush finished. Doors are rigid, shelves are adjustable and every cabinet is ventilated. Write today for full details. ■ ROYAL

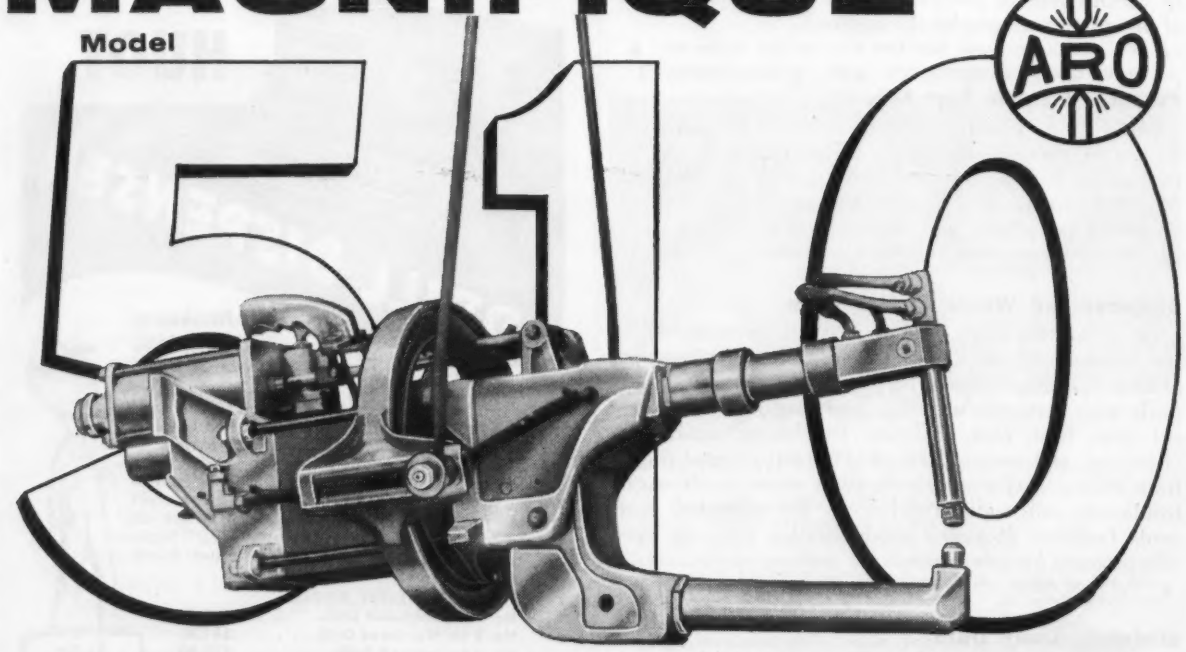
Royal INDUSTRIAL EQUIPMENT

METAL MANUFACTURING CO., Dept. 18-E, One Park Ave., New York 16, N. Y. In Canada—Galt, Ontario.

▲ For more details circle NED-993 E on enclosed inquiry slip ▲

MAGNIFIQUE

Model 510



ARO SPOT WELDER DIV.

GUTHERY MACHINE TOOL CORPORATION
38-31 CRESCENT STREET LONG ISLAND CITY 1, NEW YORK

18,000 amps • 1350 lbs. pressure • Welds from lightest gauge up to 2x3/16" • Fully automatic • Air Operated • Water cooled

A Wide Variety of Models Available for Every Job
Illustrated Literature on Request
Dealer Inquiries Invited

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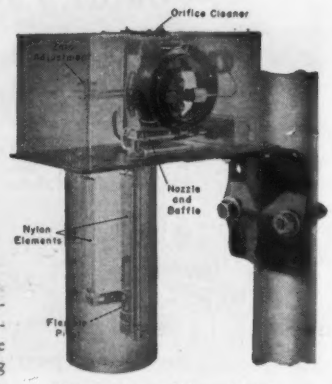
New FROM Taylor

No. 207T RELATIVE HUMIDITY TRANSMITTER



Phantom View of Room Model

Simple. A non-indicating, pneumatic, motion-balance transmitter, the No. 207T produces an air output pressure proportional to the relative humidity around the sensing elements, permitting a direct reading in the receiving instrument.

Easy to adjust. Zero setting can be checked by comparing the output with relative humidity determined by a wet and dry bulb hygrometer. Adjustment is by means of a knurled nut on the Bourdon spring take-off arm.

Easy to maintain. Nylon elements, nozzle-baffle system and Bourdon spring element are easily accessible; stainless steel nozzle simply removed for cleaning; finger-tight tubing connections.

Write for **Bulletin 98338**

Taylor Instrument Companies, Rochester, New York, and Toronto, Ontario

Taylor Instruments MEAN ACCURACY FIRST

▲ For more details circle NED-994 E on enclosed inquiry slip ▲

A BATCH A MINUTE!

PRECISION MIXING

from a few pounds to over 16 tons, with

Daffin MACLELLAN **BATCH MIXERS**

WRITE FOR FREE BULLETIN X-19R

Used by industries the world over to mix and/or blend a complete batch of dry, free-flowing ingredients in one-minute cycles. Exclusive design prevents material separation or particle breakdown regardless of densities. Fast loading, unloading. Easy to clean.

CAPACITIES: 5 qts. to 160 cu. ft. Hand and motor driven models. All sizes available in stainless steel, other alloys.

Daffin MANUFACTURING COMPANY
INDUSTRIAL DIVISION
3955 NORTH PRINCE STREET • LANCASTER, PA.

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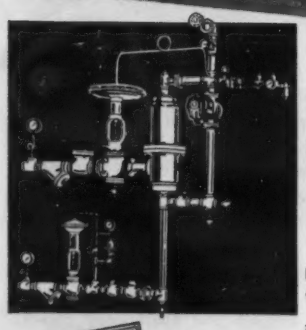
CUT HOT WATER COSTS



Pick STEAM INJECTION

HOT WATER HEATERS

8 sizes . . . 500 to 50,000 Gals. Per Hour

Hot water in a flash — produced only as it's needed!

Pick patented mixing chamber is completely automatic . . . direct contact of steam and water provides desired hot water temperature *instantaneously* . . . temperature accurately maintained by thermostatic controls.

Water volume adjustable from 5% to full rated capacity of heater. 20-second reaction to desired up-and-down changes in water temperature.

Write today to Dept. P

FREE BULLETIN Shows how Pick Heaters are used in many industries.

Pick WATER HEATERS

PICK MFG. CO., West Bend, Wis.

▲ For more details circle NED-996 E on enclosed inquiry slip ▲

New Literature & Catalogs

Liquid Springs & Shocks

Taylor Devices, Inc.—All the necessary data, nomographs, and formulas needed by the designer for applying liquid spring type shock absorbers developing up to 1½ million pounds of force are contained in 12-page Engineering Handbook CH. Springs use compressibility of liquid as their power source.

▲ For more details circle NED-997 E on enclosed inquiry slip ▲

Voltage Regulated Power Supplies

Kepco, Inc.—Guidance in the design, application, and selection of transistorized, vacuum tube, and magnetic types of voltage regulated power supplies is offered in 28-page Catalog B-601. Schematic diagrams, specifications, and performance are covered. Dual index by design group and output voltage range give easy access to data.

▲ For more details circle NED-998 E on enclosed inquiry slip ▲

Miniature Electric Eyes

Photomation, Inc.—Problems involving inspection, sorting, counting, web control, registration, level control, packaging, and product monitoring are readily solved with photoelectric eyes and accessories described in Bulletin 590. Design and application techniques are detailed, and typical uses are cited.

▲ For more details circle NED-999 E on enclosed inquiry slip ▲

Safe Handling

E. D. Bullard Co.—Safety hooks for hoists, cranes, and pullers; high voltage insulated tension link for cranes; mechanical back-up alarms for industrial trucks and other vehicles; safety steps for trucks; and auto safety belts are described in 12-page Catalog 60.

▲ For more details circle NED-1000 E on enclosed inquiry slip ▲

Hardness vs. Tensile Strength

Babcock & Wilcox Co., Tubular Products Div.—The approximate relation between hardness by various testing systems and the tensile strength of carbon and alloy steels is clearly shown on reference chart. Technical Data Card 183 is imprinted on heavy stock for ready reference.

▲ For more details circle NED-1001 E on enclosed inquiry slip ▲

Guide to Protective Coatings

Allied Chemical Corp., Plastics & Coal Chemicals Div.—Usable throughout industry, coal-tar base impervious protective coatings for metal and concrete structures and equipment subjected to severe corrosive conditions are detailed in 16-page Bulletin CAC-11-598. Coatings are resistant to water, chemicals, acids, alkalies, oils, solvents, and other destructive materials. Properties, applications, and other data are tabulated.

▲ For more details circle NED-1002 E on enclosed inquiry slip ▲

Automatic Batching Handbook

Howe Scale Co.—The advantages of automatic batching as well as equipment tailored to specific batching needs are related in 14-page "Automatic Batching Handbook." Controls, indicators, and recorders used in various systems are shown, and typical applications of the systems are graphically outlined.

▲ For more details circle NED-1003 E on enclosed inquiry slip ▲

Portable Electric Test Sets

Multi-Amp Electronic Corp., Multi-Amp Div.—Universal portable test units for protective relays in ratings to 2 kva are described in 48-page Bulletin SB-RT-1. Circuitry of various instruments, as well as operating procedures and applications are shown.

▲ For more details circle NED-1004 E on enclosed inquiry slip ▲

Silicones and Where to Use Them

Dow Corning Corp.—Offered as an up-to-the-minute summary of the forms, properties, and applications of Dow Corning silicones, 16-page "Engineering Guide" deals with materials of design and production that resist time, heat, cold, moisture, weathering, oxidation, electricity, and chemical attack. Products covered range from release agents and laminating resins to electrical insulation and water repellents. Pre-addressed post cards facilitate obtaining more detailed data on specific products for special needs.

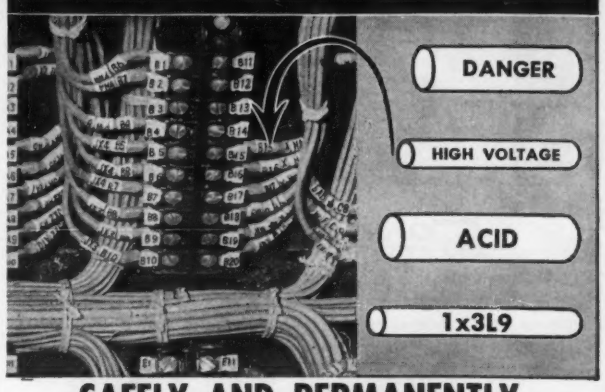
▲ For more details circle NED-1005 E on enclosed inquiry slip ▲

Miniature Lamp Data

Chicago Miniature Lamp Works—Standard miniature lamps and the sources from which they can be obtained are listed in handy form in pocket-size booklet. Specifications of nearly 400 small lamps for pilot, lighting, and other purposes are tabulated.

▲ For more details circle NED-1006 E on enclosed inquiry slip ▲

CABLE MARKING PREVENTS ERRORS



SAFELY AND PERMANENTLY

- MARKS
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- BINDS
- INSULATES
- TEMPERATURE RATINGS TO 300 C

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HELLERMANN CORPORATION
701 SENECA ST. • BUFFALO 10, N.Y.

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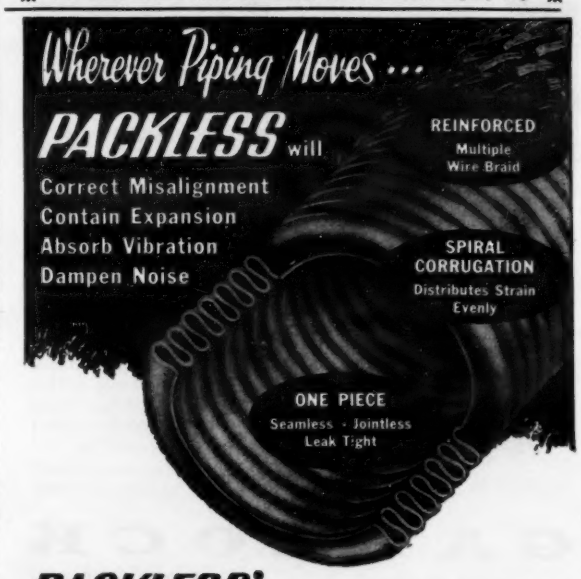
Wherever Piping Moves . . .

PACKLESS will
Correct Misalignment
Contain Expansion
Absorb Vibration
Dampen Noise



PACKLESS® Flexible Metal Hose & Fittings

MATERIALS—BRONZE, STAINLESS AND CARBON STEEL
SIZES —1/4" THRU 6" I.D.
FITTINGS —BRAZED, MECHANICAL, SOLDERED.

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PACKLESS METAL HOSE INC.
730-39 South Columbus Ave. Mt. Vernon, N. Y.

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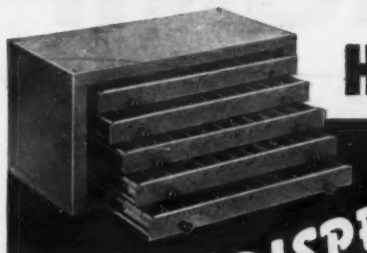


HUOT DRILL DISPENSER

Eliminates Rummaging Through Stacks of Drills

No more running out of drills—your entire stock can be seen at a glance. Each size of drill has its own compartment with rounded bottom for easy selection. You can store dozens of small drills and several large ones in their own compartments. Built-in pricing or inventory system eliminates the needs for cost sheets, and will keep a record of drills on hand. *Specifications:* 14½" long, 7¼" high, 7¼" deep. Hammerlin baked enamel finish over rugged steel.

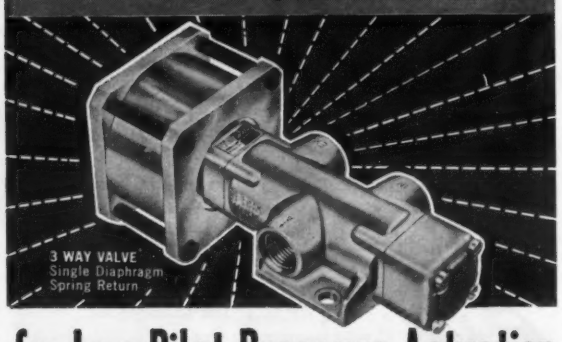
THREE MODELS
No. 1 for Fractional Drills $18.00
No. 2 for Numbered Drills $21.00
No. 3 for Lettered Drills $18.00

By the makers of HUOT DRILL INDEX

HUOT MANUFACTURING CO.
571 N. Wheeler St., St. Paul W4, Minn.

▲ For more details circle NED-1009 E on enclosed inquiry slip ▲

VERSA Diaphragm Actuated Valves



for Low Pilot Pressure Actuation

■ Versa Diaphragm Valves can be actuated by pilot (or signal) pressures as low as 5 PSI on double diaphragm types and as low as 10 PSI on standard spring return models.

Versa Diaphragm Valves are available with side port bodies or for manifold mounting, and in sizes from 1/8" thru 1" NPT in 2-, 3-, 4-, and 5-way types, and for pressures from partial vacuum to 500 PSIG.

All Versa Valves are triple pressure and functionally tested under water for guaranteed leakproofness.

VERSA

VERSA PRODUCTS COMPANY INC.
150N COOLIDGE AVENUE
ENGLEWOOD, NEW JERSEY

■ Write Today for your free copy of bulletin 259

▲ For more details circle NED-1010 E on enclosed inquiry slip ▲

Revolutionary Tool!

New Tee Turner cold draws reducing tees — no fittings necessary!

Here's the most revolutionary development in copper plumbing in a decade—a portable tool that "turns" reducing tee connections in K, L, M and DWV copper tubing (1¼" to 4") in five minutes!

The Tee Turner works equally well in the shop or on the job. It saves literally hundreds, even thousands of dollars on big jobs by 1) eliminating the need for reducing tee fittings, and 2) cutting the number of solder joints at each branch from 3 to 1. Actually reduces labor costs on tubing installations up to 75 percent!

The Tee Turner has been approved and specified for branching by consulting engineering firms all over the U.S. It has been used in the construction of schools, hospitals, motels, industrial plants, commercial buildings, and private residences.

In addition, it has proven ideal for remodeling and maintenance work in large plants and commercial buildings.

Tee Turner tools are available for both water distribution and drainage systems. For complete information fast, write or wire . . .

THE ERIE TOOL WORKS
ERIE, PENNSYLVANIA, U.S.A.

▲ For more details circle NED-1011 E on enclosed inquiry slip ▲

New Processes & Materials

PLASTIC FINISHING PROCESS gives matte or satin appearance

Compression molded thermosetting plastic parts are given a smudge resistant matte or satin appearance by a finishing process. It imparts a look of quality, removes mold seam marks, and cuts down on high gloss. Instrument covers can be made glareless by the process which also hides minor surface imperfections. Photo shows phenolic lamp knob with normal high gloss at left and matte finish at right. • **Norton Laboratories, Inc.**, Lockport, N. Y.

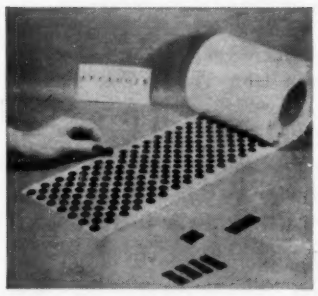
▲ For more details circle NED-1012 E on enclosed inquiry slip ▲

STEEL CLEANING COMPOUND contains chelating agents

Smut, light rust, oxides, light welding scale, soil, and fingerprints are removed from steel parts by Cleaner 808, an alkaline electrocleaner. Suited for heavy duty anodic cleaning, product is a dustless, free-flowing powder which is dissolved in water in concentrations of 8 to 10 oz per gallon. Heavily soiled work is usually made the anode, although periodic reverse current can be used to remove heavy rust and scale. Chelating agents impart water softening ability to make the solution effective in hard water. Surfactants produce a controlled foam blanket on the surface which minimizes spray and hydrogen gas explosions. • **Enthone, Inc.**, 442 Elm St., New Haven 8, Conn.

▲ For more details circle NED-1013 E on enclosed inquiry slip ▲

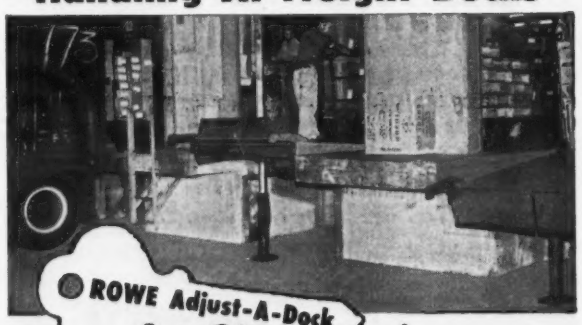
SELF-ADHESIVE FELT varied shapes made in six colors



Cushioning, silencing, insulating, and dustproofing are uses for self-adhesive felt which sticks by contact to any smooth, rough, flat, or rounded surface. Silver Gray is sixth color available in tape, tabs, dots, washers, and special die cut shapes. Thicknesses are 3/64 and 1/8 in. Dot and washer diameters range from 1/4 to 1 in., tape is up to 6 in. wide, and tabs range from 9/32-in. squares to 3/16 x 1 3/16 in. Dots, tabs, and tape are supplied in rolls with easily peeled Holland cloth backing. • **J. B. Dawn Products Co.**, 3905 W. 64th Place, Chicago 29, Ill.

▲ For more details circle NED-1014 E on enclosed inquiry slip ▲

The Key To Fast, Safe Mechanized Material Handling At Freight Docks



ROWE Adjust-A-Dock

■ To improve service and reduce handling costs, F. W. Woolworth uses 12 fully-adjustable ROWE hydraulic docks. Raised or lowered to the level of the truck bed, the Adjust-A-Dock cuts costs by speeding the handling of 100 truck loads of merchandise in an eight-hour shift.

The Rowe Adjust-A-Dock is a rugged, self-contained unit built for long trouble-free service and minimum maintenance.

Write for our new free catalog.

ROWE METHODS, Inc.
2534-E Detroit Ave. • Cleveland 13, Ohio

▲ For more details circle NED-1015 E on enclosed inquiry slip ▲

NEW PORTABLE GANTRY
Has Both Height & Width Adjustment

With 6 ft. of height adjustment, and a wheel tread adjustable to the narrowest aisles, the result is a new concept in portable gantries. Also featured is an I-Beam that hangs freely from hinged supports, thus eliminating internal twist and strain, regardless of how uneven the floor may be. The trolley is free to travel the full length of the beam.

The legs fold against the I-Beam, resulting in a compact unit for hauling or storage. Models are available with steel or aluminum alloy I-Beams in heights up to 17 ft. and 15 ft. spans. Maximum capacity is 4 tons. For complete literature, write

B. E. WALLACE PRODUCTS CORP.
EXTON 19, PA.

▲ For more details circle NED-1016 E on enclosed inquiry slip ▲

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shipping • instruction • inspection • warning • inventory • perforated • die cut • book style • numbered • manifold • metal eyelet • wired • strung • paper or cloth • 20 grades of paper • 14 colors • moisture-resistant • Tags conform with Federal Specifications PPP-B-566. Can be imprinted. Emergency service a specialty!

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STONE CONTAINER Corporation
4200 West 42nd Place, Chicago 32, Illinois

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POR-ROK (POUR ROCK) ®

ANCHORS BOLTS PERMANENTLY IN CONCRETE

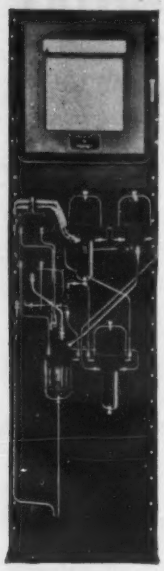
IN 30 MINUTES!

POR-ROK
1. Fastens anything into concrete—PERMANENTLY—in minutes
2. Lowest cost
3. Mixed with water and poured into place
4. Applied cold
5. Self-leveling, self-bonding, oil resistant, never shrinks
6. Compression strength 4,500 psi in 1 hour

For complete information—without obligation—write

THE HALLEMITE MFG. CO.
2452 WEST 25th ST. • CLEVELAND 13, OHIO SINCE 1927

▲ For more details circle NED-1018 E on enclosed inquiry slip ▲



CAMBRIDGE GAS ANALYZERS

Labor saving—profit producing!

Cambridge Gas Analyzers continuously analyze and simultaneously record on one chart from one to six constituents of a gas. They may be used for most simple and many complex mixtures of gases. Dependable and labor-saving, these Analyzers make possible increased efficiency and savings in the operation of steam generating plants, cement kilns, blast furnaces; in the production of inert gases; in metallurgy, in petroleum refining and other chemical processes.

3-POINT RECORDING GAS ANALYZERS (Co_2, H_2 CO)

Send for literature mentioning application

CAMBRIDGE INSTRUMENT COMPANY, INC.

1620 Graybar Bldg., 420 Lexington Ave., New York 17, N.Y.

PIONEER MANUFACTURERS OF PRECISION INSTRUMENTS

▲ For more details circle **NED-1019 E** on enclosed inquiry slip ▲

PUMPING PROBLEM SOLVED

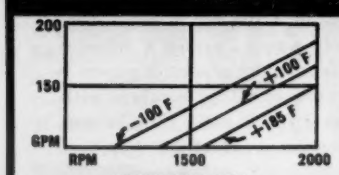
GEAR PUMP OPERATES

from	**−100 F**
up to	**+185 F**

Problem: To handle JP5 fuel over a wide temperature range.

Solution: Special SK Herringbone Gear Pump.

HERE IS THE PUMP AT −50 F



HERE IS THE CURVE

Let SK solve *your* pumping problem.

Ask for Bulletin G-1.

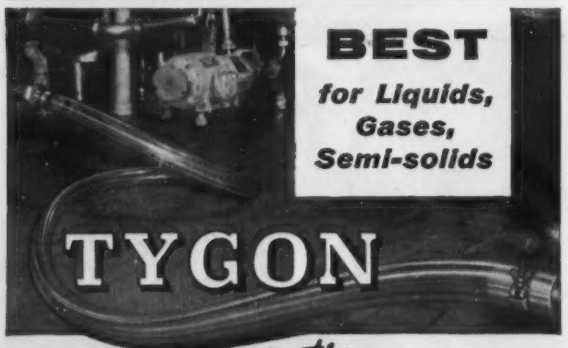
Schutte and Koerting COMPANY

2227 STATE ROAD, CORNWELLS HEIGHTS, BUCKS COUNTY, PA.

Phone: MErcury 9-0900

JET APPARATUS • ROTAMETERS • GEAR PUMPS • VALVES • HEAT EXCHANGERS

▲ For more details circle **NED-1020 E** on enclosed inquiry slip ▲



flexible plastic **TUBING**

Tygon Tubings combine true flexibility, glass clear transparency and exceptional resistance to corrosion. The many formulations provide superior service under a wide range of service conditions.

Some formulations are tasteless, odorless, non-toxic for high purity solutions such as plasma, drugs, liquid foods and milk products. Others handle corrosive gases and liquids and are chemically inert to attack by acids, alkalies, oils and alcohol. Still others withstand pressures to 300 p.s.i. or full vacuums. All formulations are physically tough, withstand rough usage and provide longer useful service.

Tygon tubings are installed in minutes. Cleaning is simplified by the highly polished bore. Sixty-five sizes from 1/16" through 4" provide a size for virtually every use.

Send for Bulletin T-100 today.

Plastics and Synthetics Division

U. S. STONEWARE

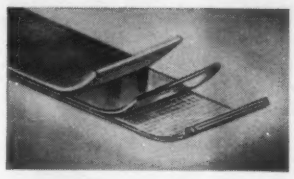
AKRON 9, OHIO

387E-3

▲ For more details circle **NED-1021 E** on enclosed inquiry slip ▲

New Processes & Materials

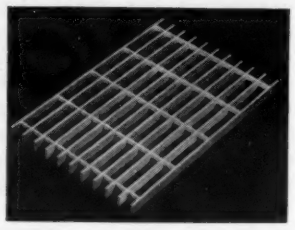
STRETCH-FREE BELT is high strength, synthetic type



Suited for wide range of drive and conveying applications, Revo double-strength synthetic belting is almost stretch-free and combines advantages of oriented nylon bands and woven nylon cloth. It gives only slightly under loads, but its "molecular memory" returns it to the original length and tension once overload is removed. Because of its strength, thin belts can be used at high speeds, even over small pulleys. It is resistant to oil, humidity, acids, and temperatures to 200° F. Beveled ends are easily fused or cemented into a smooth joint without fasteners. Urethane coating on pulley side affords high coefficient of friction and exceptional life. Sizes are available for practically any need. • **L. H. Shingle Co.**, Camden 3, N. J.

▲ For more details circle **NED-1022 E** on enclosed inquiry slip ▲

ALUMINUM GRATING all bars are locked in place



Swaging and forming process used in the manufacture of Weldforged aluminum grating and treads prevents cross bars from turning, twisting, coming loose, or falling out. The 6061T6 aluminum alloy grating has a high strength-to-weight ratio and a minimum of deflection. It is offered in several strengths with plain and serrated bearing bars, the latter for slippery conditions. Bearing bars are offered on 0.915 and 1 3/16-in. centers and cross bars on 2 and 4-in. centers. Grating in 8½ to 35⅞-in. wide panels also is used for grills, sunshades, room dividers, gates, and other architectural uses. • **Kerrigan Iron Works Co.**, 11th & Herman Street, Nashville 2, Tenn.

▲ For more details circle **NED-1023 E** on enclosed inquiry slip ▲

SILICONE SPRAY LUBRICANT stops sticking and repels water

Nonvolatile multipurpose silicone spray serves as a lubricant for rubber, leather, canvas, plastic, and metal surfaces, gears, bushings, bearings, hinges, locks, and many other items. Packaged in pressurized dispensers, it penetrates, lubricates, and protects. It stops sticking and squeaks, repels water, resists fabric deterioration, and retards rust on metal surfaces. Colorless material does not wash off readily, does not harden or thicken with age, and has dielectric characteristics which permit use on clocks, timers, and electronic devices. The 16-oz size sells for $1.95 and the 6-oz size for 98 cents. • **Krylon, Inc.**, Ford & Washington Streets, Norristown, Pa.

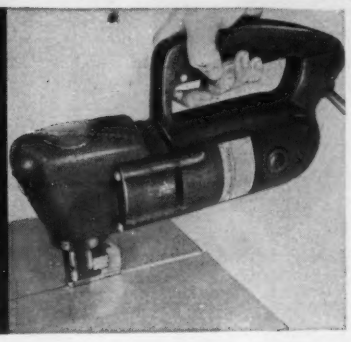
▲ For more details circle **NED-1024 E** on enclosed inquiry slip ▲

PLASTIC SHEET FOR SIGNS has two different colored layers

Vacuum formed signs with raised design or lettering are easily produced from Tenite laminated butyrate plastic sheet, extruded in two different colored layers. Sanding off the upper raised layer after forming produces the contrasting design or lettering. Glossy two-ply sheet offers good weather resistance for signs and other outdoor uses. It is offered in combinations of crystal with white, red, or blue in 24-in. width and lengths up to 54 in. Thicknesses range from 45 to 125 mils. Custom lengths and the full range of standard butyrate sign colors can be specified. • **Rowland Products, Inc.**, Kensington, Conn.

▲ For more details circle **NED-1025 E** on enclosed inquiry slip ▲

CUT METAL *FAST*, WITHOUT DISTORTION USE MODERN NIBBLERS



They cut 10 gage stainless, 8 gage mild steel, 7 gage aluminum and brass without bending or curling the metal.

They cut 6" (and smaller) radius.

Models are available for cutting corrugated metal, fibre glass and plastic without cracking or chipping. Other models for cutting wire netting, irregular rods, gaskets, etc.

A MODEL FOR CUTTING ¼" COLD ROLLED STEEL AVAILABLE SOON!

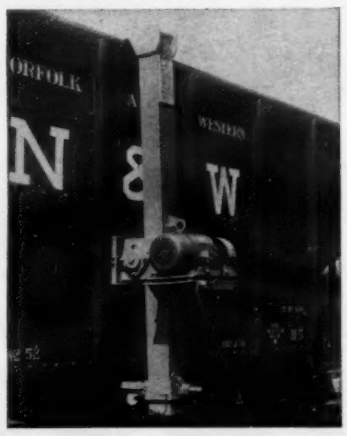
Write, wire or call

MODERN MFG. CO., INC.

678 Davisville Road, Willow Grove, Pa.

Phone: OLdfield 9-4820

▲ For more details circle **NED-1026 E** on enclosed inquiry slip ▲



NATIONAL CAR SHAKER

will unload bulk material from hopper cars quickly, easily, safely, will save you money. Write today for full information.

OVER 1200 IN USE

NATIONAL CONVEYOR & SUPPLY CO.

361 HARDING AVE.

CHICAGO 24, ILL.

▲ For more details circle **NED-1027 E** on enclosed inquiry slip ▲

any shape...any size...easy to apply...low cost

Watlow's new flexible silicone rubber heaters are made by laminating the resistance element between two pieces of glass cloth calender-coated with silicone rubber. They are thin .050", flexible, and can be made in any shape to fit your need.

They provide heat up to 450°F and watts densities as high as 35 watts per square inch; **Mounting:** Your choice of many ways:

1. Pressure sensitive surface; **2.** Silicone rubber adhesive; **3.** Thin metal backing; **4.** Snaps; **5.** Springs.

For more information write for Bulletin C-102

WATLOW

ELECTRIC MFG. CO.

1374 Ferguson Avenue

St. Louis 14, Mo.

Cartridge • Strip • Immersion • Tubular Cylinderical Electrical Heating Units

6013

▲ For more details circle **NED-1028 E** on enclosed inquiry slip ▲

ALLIED DIVERSE TYPES OF

DRIVE WHEELS

SIMPLIFY YOUR PRODUCT PROPELLING PROBLEMS!

ALL TYPES—MANY SIZES:

● Let field tested and proven ALLIED Drive Wheels solve your propelling requirements. Big selection of high production stock types and sizes, at favorable prices!

SPROCKET DRIVE WHEELS—7 to 10" dia. for low speeds and weights.

PULLEY DRIVE WHEELS—8 to 12" dia. for up to 350 lb. loads.

KEY DRIVE WHEELS—8 to 12" dia. for 10 mph speed and larger loads.

WASHER DRIVE WHEELS—6 to 12" dia. for walking speed only.

COTTER PIN DRIVE WHEELS—many sizes.

VARIATIONS AT SMALL COST

Slight modifications of ALLIED stock Drive Wheels can be made with minimum or no tooling cost—to meet O.E.M. precise requirements in production quantities!

FREE ROLLING WHEELS TO MATCH

ALLIED offers matching companion wheels for all types and sizes of Drive Wheels—with choice of any standard wheel bearings. Hub Caps available for all wheels too!

FOR DETAILS, WRITE DEPT. N

ALLIED WHEEL PRODUCTS, Inc.

27 BROADWAY • TOLEDO 4, OHIO

Representatives and Warehouses in Fifty Principal Cities

▲ For more details circle NED-1029 E on enclosed inquiry slip ▲

PULL

LIFT

LOWER

WITH THE CADILLAC

WINCH HOIST

This lever-actuated winch hoist has been use-tested since 1952. It's SAFE! It withstands 50% overload! *Every* hoist is pre-tested to full capacity before it leaves the factory. It is easy to handle because it is made of light weight aluminum alloy with stainless steel shafts and springs. Aircraft cable assembly is replaceable without dismantling. Snap-on reversible handle speeds operation. Distributors in all major cities. Capacities 1000 lbs. to 4000 lbs. Price is $29.50 up.

Full year guarantee against defective workmanship and materials.

ALUMINUM PRODUCTS, INC.

698 S.W. 2nd AVE. ESTABLISHED 1943 FT. LAUDERDALE, FLORIDA

▲ For more details circle NED-1030 E on enclosed inquiry slip ▲

New Literature & Catalogs

Room Heating Equipment

Shaw-Perkins Mfg. Co.—12-page condensed general catalog describes line of wall-hung and baseboard heat distribution equipment for steam and hot water heating systems. Size and rating tables, plus dimensions and installation details, aid in engineering and specifying these modern radiators and convectors.

▲ For more details circle NED-1032 E on enclosed inquiry slip ▲

Dust Collectors

Metals Disintegrating Co., Mikro-Products Div.—How the improved Jet Action Mikro-Pulsaire collector affords maximum recovery of nuisance, noxious, or high-value dusts is explained in 10-page illustrated Bulletin 52-A1. Capacities range upward from 20 cfm to practically any size. Also shown is pneumatic conveying and material handling equipment.

▲ For more details circle NED-1033 E on enclosed inquiry slip ▲

Resistance Welding

Taylor-Winfield Corp.—Actual case histories showing how modern resistance welding machines are selected or engineered for particular needs are included in 24-page Laboratory Bulletin SP-18. Brochure is packed with photos of 268 welded products. Spot, seam, projection, arc, flash-butt, and upset-butt types of welding are shown, as well as metal gathering on many ferrous and nonferrous metals.

▲ For more details circle NED-1034 E on enclosed inquiry slip ▲

Guide to Small Tubing

Superior Tube Co.—Bulletin 42 is a 12-page guide to the selection and application of small tubing. It summarizes the significant properties of 84 tubing analyses in seven groups: Carbon, stainless, and alloy steels; nickel and nickel alloys, copper base alloys, glass-sealing alloys, and reactive metals. Included are concise descriptions of specialty tubing products such as hypodermic needle, capillary, super pressure, aircraft hydraulic, miniature heat exchanger, Bourdon, and thermocouple tubing.

▲ For more details circle NED-1035 E on enclosed inquiry slip ▲

Roofer's Equipment

Aeroil Products Co.—24-page Catalog 60 describes roofers equipment such as kettles, pumpers, tanks, torch and burner outfits, feltlayers and gravel spreaders, ladders and hoists, and roofer's tools and accessories.

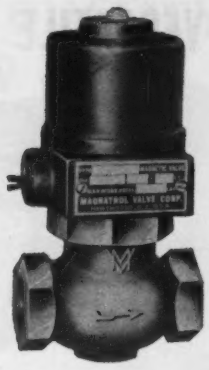
▲ For more details circle NED-1036 E on enclosed inquiry slip ▲

Precision Spindles

Pope Machinery Corp.—Design, performance, and application data on over 60 types of precision spindles for grinding, boring, milling, sloting, and drilling are contained in 36-page Bulletin S-18. Many new models are listed. Also presented are details of a new super-precision boring machine, custom built driving motors, and an opposed head horizontal boring machine with programmer control.

▲ For more details circle NED-1037 E on enclosed inquiry slip ▲

Eliminate Costly Flow Failures



Magnatrol SOLENOID VALVES

Quick Operating *Non Sticking* *Tight Seating*

These three design advantages are your assurance against costly flow failures. Attain dependable, accurate, automatic or remote control of liquids or gases with Magnatrol Valves. Installed quickly and easily in connection with . . . flow-meters, thermostats, float and time switches. Every Magnatrol Valve is delivered to you—factory tested—guaranteed free from defects in material and workmanship.

Available in normally closed or normally open models. Pressure ranges from zero up to 300 PSI. Voltages to 575.

Catalog containing complete specifications mailed upon request.

Magnatrol

Magnatrol Valve Corp.
Fifth Avenue
Hawthorne 8, New Jersey

▲ For more details circle NED-1038 E on enclosed inquiry slip ▲

Mix big batches *of fluids in a jiffy*

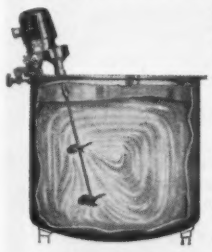
Suspend heavy solids—no job too tough for these rugged mixers

Yes, you can mix batches as big as this 6000-pound vat of clay slurry—and still get *portable* mixer convenience!

Get swift uniformity with LIGHTNIN Portables—at the flip of a switch. Powerful propeller stream sweeps the tank bottom, suspends solids, *tumbles* and *rotates* the batch violently—or gently—as you prefer.

Results guaranteed. You take no risk when you specify LIGHTNIN Portables. Results are unconditionally guaranteed. Thousands of LIGHTNINS are in use; many 25 years and more.

You get widest choice of ball-bearing motors. Quickly removable true-running shaft cannot loosen or jam. Mixer locks instantly in any position. Thirty portable models to choose from, electric or air driven; direct or gear drive; sizes 1/8 to 3 HP. For full details, request 28-page illustrated Catalog B-108.



GET FAST, THOROUGH MIX in any open tank or container. No swirl, no vortex, no dead spots with LIGHTNIN double-action mixing.

Mixers for permanent mounting, too—full selection of LIGHTNINS for tanks to 6 million gallons. Sizes 1/4 to 500 HP. For details, request illustrated Catalog B-109.

Lightnin® Mixers

MIXCO fluid mixing specialists

MIXING EQUIPMENT Co., Inc.

165-e Mt. Read Blvd., Rochester 3, N.Y.

In Canada: Greey Mixing Equipment, Ltd., 100 Miranda Ave., Toronto 19, Ont.

▲ For more details circle NED-1039 E on enclosed inquiry slip ▲

for "JET AGE ACCURACY"

FOREDOM

FLEXIBLE SHAFT MACHINES

supply the control and precision needed for sensitive instrumentation

The Sensitive Altimeters made by Kollsman Instrument Corporation must give altitude readings of complete accuracy throughout a wide range of pressures and temperatures, and Foredom Flexible Shaft Machines help assure this precision. In the photograph shown here, a Kollsman craftsman uses a bench model Foredom machine for one of the many delicate finishing operations required on an altimeter mechanism body.

Foredom's slim handpieces respond to the slightest pressure and give perfect control at all speeds. And there's nothing better for getting into small openings and other inaccessible spots. If you work on metal, plastic, leather, rubber, wood or glass, there's a Foredom machine and handpiece ideally suited to your operation.

For more information, write for catalog 210.

Grinding & Finishing • Engraving & Marking • Tool Maintenance
Filing • Buffing & Polishing • Sanding & Brushing
Mold & Die Work • Deburring

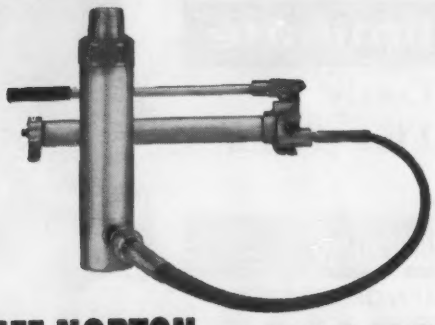
FOREDOM ELECTRIC COMPANY, INC.

BETHEL, CONNECTICUT

F since 1922 SERVICE QUALITY

▲ For more details circle NED-1031 E on enclosed inquiry slip ▲

VERSATILE POWER PACKAGE



DUFF-NORTON RAM-PAC®

HYDRAULIC RAMS AND PUMPS

The Duff-Norton Ram-Pac line provides a versatile source of power to apply from 10 to 100 tons of force in any direction—with little effort.

The twelve rams may be used with the hand or power pumps as portable sources of power and for permanent installation in hydraulic jigs, fixtures and presses.

The Ram-Pac line has five pumps—two hand, one air-hydraulic, one electric and one gasoline. Attachment units and accessories are available. For details ask your distributor or write for Bulletin AD-90—N.

DUFF-NORTON COMPANY
P. O. BOX 1889, PITTSBURGH 30, PA.

For more details circle NED-1040 E on enclosed inquiry slip

SCHRADER'S POWERFUL MINIATURE AIR CYLINDERS

Use them for light duty and gang-type applications . . . even tough applications requiring extra stamina and speed. Excellent for operating jigs and fixtures, transfer and special purpose machines.

Features: No tie rods . . . double acting . . . popular 1" bore . . . stroke sizes to 12" . . . mount in any position.

Quality built-in: Cartridge type bronze bearing and piston rod seal . . . non-corrodible solid brass end plates with hexagonal flats and non-corrodible brass cylinder and pistons . . . ground and polished steel piston rod . . . molybdenum disulphide grease packing . . . self-adjusting synthetic rubber "U" cup piston seals.

Write for catalog insert with complete specifications and data.

Schrader a division of SCOVILL

A. SCHRADER'S SON
Division of Scovill Manufacturing Co.
459 Vanderbilt Ave., Brooklyn 38, N. Y.
QUALITY AIR CONTROL PRODUCTS

For more details circle NED-1041 E on enclosed inquiry slip

Carpenter

Bi-Metallic Tubing

solves dissimilar corrosion problems in heat exchangers

Offers an economical solution to problems of simultaneously providing effective resistance to two entirely different types of corrosive attack on tubing O.D. and I.D. surfaces. Applicable in existing heat exchangers, condensers and other heat transfer equipment where tubing of the same material throughout will not satisfactorily meet dissimilar corrosive conditions on the shell and tube sides.

Consists of stainless tubing mechanically bonded to entire length of I.D. or O.D. surface of carbon, brass, copper, other stainless, or high alloy tubing to form single unified structure. Tube ends can be fitted with ferrules of same metal as inside tubing for installation in tube sheets. Full range of heat exchanger sizes, gauges and lengths available. Contact nearest Carpenter office or representative for detailed information. Ask for Bulletin BMT.

THE CARPENTER STEEL COMPANY
Alloy Tube Division • Union, N. J.

For more details circle NED-1042 E on enclosed inquiry slip

New Literature & Catalogs

Centrifugal Casting Data

Shenango Furnace Co., Centrifugally Cast Products Div.—Comparative specifications, chemical analyses, and minimum physical properties of various nonferrous alloys which are available as standard or custom centrifugal castings are detailed in large chart contained in Bulletin 157. Typical nonferrous castings made by this company are pictured.

For more details circle NED-1043 E on enclosed inquiry slip

Zinc-Copper-Titanium Alloy

Whitehead Metals, Inc.—Technical data and application information on Hydro-T-Metal are given in 4-page bulletin. This zinc-copper-titanium alloy is easily soldered or fusion welded, can be deep drawn without work hardening or annealing, takes nickel and chrome plating, resists corrosion, and is easily colored. It is available in strip, coil, or sheet form.

For more details circle NED-1044 E on enclosed inquiry slip

Plastic from Stock

Commercial Plastics & Supply Corp.—64 pages of information on sizes and properties of plastics available from stock in sheet, rod, tube, and film forms are contained in 1960 catalog. Ordering is facilitated. Newest products such as Delrin and Fluorglas as well as copper-clad laminates are included.

For more details circle NED-1045 E on enclosed inquiry slip

Portable Air Driven Tools

Master Power Corp.—Grinders, sanders, and wire brushing tools, powered by compressed air, are detailed in Catalog G-60 entitled, "Metal Finishing with Master Power Air Tools." Also shown are accessories for use with these tools which have free speeds ranging to 20,000 rpm.

For more details circle NED-1046 E on enclosed inquiry slip

Selecting Tube Fittings

Weatherhead Co.—Designed to simplify the selection and application of steel and brass fittings for tubing and pipe, handy wall or desk chart No. 6173 covers complete range of flared, flareless, and pipe fittings. Tabulated are styles, typical applications, pressure and temperature ratings, and other data.

For more details circle NED-1047 E on enclosed inquiry slip

Printed Circuit Drafting Aids

By-Buk Co.—Quick-reference chart for printed circuit draftsmen includes 6 pages on pre-cut shapes and sizes of pressure-sensitive drafting aids needed to make paste-up printed circuit drawings that will conform to Military as well as industrial specifications. Tapes, dots, and special-shaped cutouts are shown full size.

For more details circle NED-1048 E on enclosed inquiry slip

Materials Handling Equipment

Palmer-Shile Co.—Stacking storage boxes for four-way handling with lift trucks, automatic dump boxes, automatic side dump trailers, warehouse trucks, multipurpose carts and trucks, industrial dustpan, utilities racks, barrel and box grabs, skids and platforms, drum lifters and dumpers, and universal grabs are but a few of the many materials handling items described in 16-page 1960 Catalog.

For more details circle NED-1049 E on enclosed inquiry slip

Aluminum Primary & Mill Products

Harvey Aluminum—12-page technical brochure lists full range of sizes, properties, and metallurgical data on primary and mill products of aluminum which are available in pig, ingot, billet, and wrought types as well as extrusions, pipe, tubing, and other commodities.

For more details circle NED-1050 E on enclosed inquiry slip

Metal Fabricating Facilities

George D. Ellis & Sons, Inc.—"Ellisco Facilities for the Custom Fabrication of Metals" is title of 6-page Bulletin 150. Engineering skills and equipment for making light metal stampings, sheet metal specialties, and welded or soldered assemblies are described. Typical products are shown.

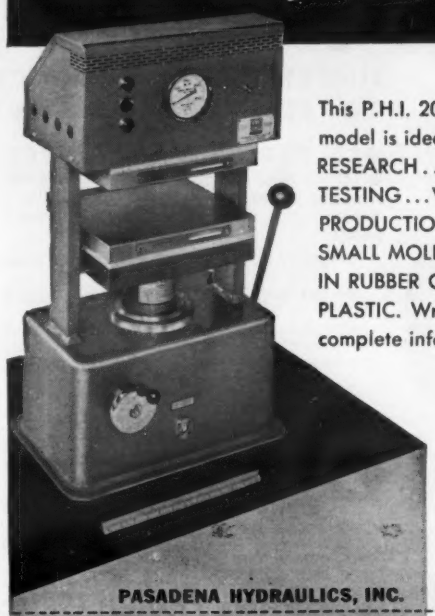
For more details circle NED-1051 E on enclosed inquiry slip

Industrial Finishes

United Lacquer Mfg. Corp.—Some 64 shades available in lacquers, synthetics, vinyls, and specialty finishes are shown in color card folder of industrial finishes. Included are wrinkles, metallics, pearlized Hammermark, metallic Hammermark, multicolors, stain, crystal and crackle lacquers, clear lacquers, and many other finishes.

For more details circle NED-1052 E on enclosed inquiry slip

finest **BENCH PRESS** you can buy...



This P.H.I. 20 Ton model is ideal for... RESEARCH... TESTING... VOLUME PRODUCTION OF SMALL MOLDED ITEMS IN RUBBER OR PLASTIC. Write for complete information.

PASADENA HYDRAULICS, INC.
1433 Lidcombe, El Monte, Calif.

P·H·I PRESS

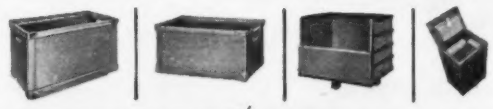
For more details circle NED-1053 E on enclosed inquiry slip

LOOK, BOSS... KENNETTS ARE LIGHT!

They're also:
Extra durable
Extra tough
Shock-absorbing
Resilient
Quiet
Corrosion-resistant
Snag-free
Easily cleaned
Priced right
They're made of National Vulcanized Fibre, a tough cellulosic plastic. They last for years!

"Honest, boss. We can handle our parts and products faster, more easily . . . cut down on damage and breakage . . . and really save money with Kennetts. Why not write for 6 page bulletin today."

There's a Kennett Receptacle for the materials handling problems in your plant.



KENNETT RECEPTACLES BY NATIONAL VULCANIZED FIBRE CO.
WILMINGTON 99, DELAWARE

For more details circle NED-1054 E on enclosed inquiry slip

this is SEAL-GUARD®!

the modern, truly efficient rod-wiping component

The modern and most effective means for keeping your hydraulic and pneumatic systems clean is with *Seal-Guard*. This rod-wiping component consists of (1) two knife-like bronze wiper rings which throw all foreign matter outward as rod retracts into cylinder and (2) a synthetic rubber retaining ring which absorbs shock and side load, holds wipers in full contact with rod and provides an overall outside seal.

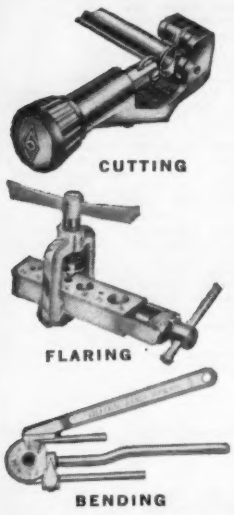
Send today for all the facts on . . . **SEAL-GUARD®**

Industry's Partner in Production
E. F. HOUGHTON & CO.
Philadelphia, Pa. • Chicago, Ill. • Carrollton, Ga. Detroit, Mich. • San Francisco, Calif. • Toronto, Canada

For more details circle NED-1055 E on enclosed inquiry slip

EASY

TO USE TUBE WORKING TOOLS SAVE TIME • SAVE MATERIAL



Imperial Hi-Duty Tube Cutter
Free-wheeling, ball-bearing action. Roller-type with flare cut-off groove. Retractable reamer, spare cutting wheel. The 274-FA (shown) for ⅛ to 1⅛" O.D. Other models for sizes to 2¼" O.D.

Imperial Rol-Air Flaring Tool
Rolls flares in the air, automatically burnishes them to high polish. Assures tight joints. The 500-F (shown) flares 3/16 to 5/8" O.D. tubing. Other models for 37°, 45°, and double flares in sizes to 2" O.D.

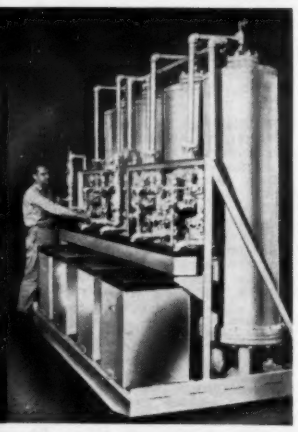
Imperial Blue Dot Bender
Bend hard or soft tubing to accurate dimensions with short radius — any angle to 180°. Position anywhere on tubing. Benders for 3/16 to 7/8" O.D. tubing. Combination benders for 1/4 to 7/8" O.D. and gear-type benders.

Also tools for reaming, swaging, pinch-off, refacing. For information on Imperial's complete line, write today for Catalog 3088 or see your industrial supply house.

IMPERIAL The Imperial Brass Manufacturing Company, 6300 W. Howard Street, Dept. NED-50, Chicago 48, Ill.

▲ For more details circle NED-1056 E on enclosed inquiry slip ▲

BARNSTEAD INDUSTRIAL WATER DEMINERALIZERS



PRODUCING DEMINERALIZED WATER UP TO 2500 GALLONS PER HOUR

Complete line of Mixed-Bed, Two-Bed, and Four-Bed models producing up to 2500 gallons per hour of demineralized water of high purity . . . Special "train" equipment produces 18,000,000 ohms water in production quantities completely free of minerals, organics, bacteria, and submicroscopic particles down to 0.45 micron. Write for NEW Catalog #160.

Barnstead STILL AND STERILIZER CO.
16 Lanesville Terrace, Boston 31, Mass.

▲ For more details circle NED-1057 E on enclosed inquiry slip ▲

WRIGHT Safeway Hand Hoists—In 12 Sizes —½ Ton to 50 Tons

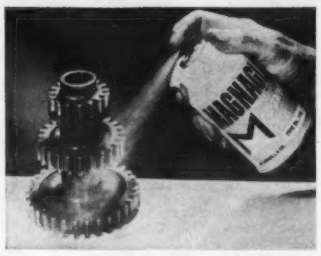
WRIGHT Safeway Hand Hoists are built to take it—inside and out. Sealed construction protects all vulnerable parts in high analysis steel housing. Gears, pinions, drive spindle (also top and bottom hooks) are nickel-chrome-molybdenum alloy steel mounted on anti-friction bearings. Gear train is enclosed in oil-tight chamber. Load wheel, with 5 or more pockets, can be reversed for double life. Alloy steel load chain is heat treated to resist wear, ductile to withstand shock loads. Weston type load brake. Factory tested at 50% overload. Write to our York, Pa., office for Bulletin DH-164C.

WRIGHT HOISTS
Wright Hoist Division • American Chain & Cable Company, Inc. ACCO
York, Pa., Atlanta, Chicago, Denver, Detroit, Houston, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

▲ For more details circle NED-1058 E on enclosed inquiry slip ▲

New Processes & Materials

FLAW DETECTION MATERIALS in spray cans and squeeze bottles



Magnaflux and Magnaglo materials for magnetic particle inspection of castings, fixed equipment, or rolling stock are now offered in pressurized spray cans and plastic squeeze bottles. These containers eliminate mixing and pouring problems and facilitate in-place or spot area testing of complex shapes or hard-to-reach surfaces. Magnaglo No. 14M prepared bath (shown) for brilliant flow indication under black light and Magnaflux 9BM prepared red bath are offered in spray cans, whereas Magnaflux No. 1 gray powder is packaged in the squeeze bottle. • **Magnaflux Corp.**, 7300 W. Lawrence Ave., Chicago 31, Ill.

▲ For more details circle NED-1059 E on enclosed inquiry slip ▲

FLOOR TOPPING & PATCH withstands corrosion and abrasion

Applied by trowel to a ⅛-in. or greater thickness and finished by a mohair paint roller, Thiopoxy 60 floor topping and patching compound is suited for use on new or old concrete. Flexible Thiokol liquid polymer and epoxy resin content enables it to withstand severe corrosive and abrasive conditions. The virtually nonporous, dustless, slip resistant, and nonshrinking compound for indoor or outdoor use cures overnight at normal room temperatures. The dense two-component material has good impact resistance and is offered in cement gray and tile red in 6-qt, 2-gal, and 10-gal units, each consisting of equal parts of base compound and catalyst. • **A. C. Horn Co.**, 2133 85th St., North Bergen, N. J.

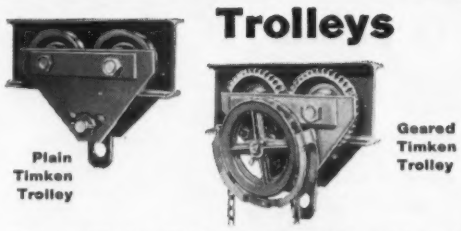
▲ For more details circle NED-1060 E on enclosed inquiry slip ▲

PAVEMENT CRACK SEALER prevents water penetration

All cracks in asphalt and concrete pavements that are less than ⅜ in. wide are sealed by Lastek 33, a rubberized liquid sealer. It is applied by pouring from small nozzle cans or cones to prevent water penetration and subsequent freeze-thaw damage. Contents of the 1-qt plastic squeeze bottle shown will seal 100 lineal feet of cracks ⅛ in. wide by ⅜ in. deep. Five-gallon cans are also available. • **Maintenance, Inc.**, Wooster, Ohio.

▲ For more details circle NED-1061 E on enclosed inquiry slip ▲

Smooth-Running Timken Roller Bearing Trolleys



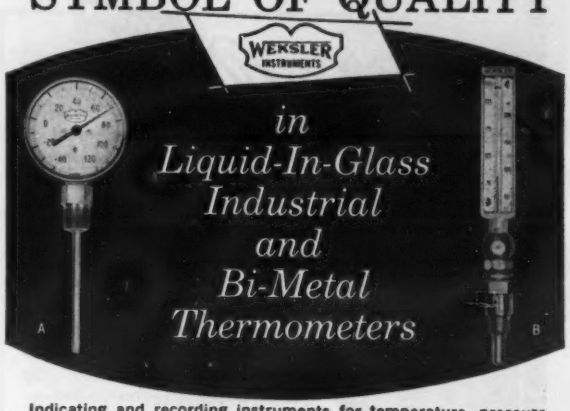
WRIGHT Timken Roller Bearing Trolleys (shown), in plain or geared models, provide smooth, safe handling of ¼ ton to 40 ton loads with minimum of effort. Heavy steel side plates and chilled tread wheels revolve on Timken Bearings (two bearings to each wheel). Tapered bearing design absorbs both thrust and radial loads and thereby reduces the work required to move the trolley along I-Beam. Chilled wheel treads wear longer, assure wheel roundness. Wright Self Aligning Roller Bearing Trolleys in ½ ton to 20 ton models are also available.

Write to our York, Pa., office for Bulletin DH-242-B

WRIGHT TROLLEYS
Wright Hoist Division • American Chain & Cable Company, Inc. ACCO
York, Pa., Atlanta, Chicago, Denver, Detroit, Houston, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

▲ For more details circle NED-1062 E on enclosed inquiry slip ▲

SYMBOL OF QUALITY



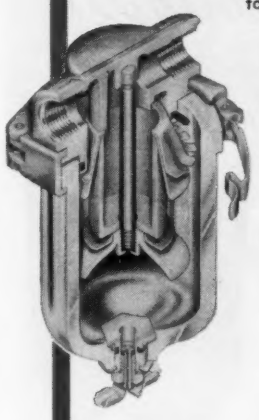
Indicating and recording instruments for temperature, pressure and humidity: *This is our one and only business.*
Our modern suburban plant, precision equipment and skilled people are here for one purpose:
To design, engineer, produce and deliver the most complete and finest line of instruments in our field of specialization that you'll find . . . *anywhere!*
The Weksler Specification Bulletin covers indicating and recording pressure gauges, industrial thermometers, dial thermometers, recording thermometers, recording hygrometers, bimetal thermometers, laboratory thermometers and hydrometers.
Write for your copy.

A Bi-Metal Dial Thermometers in Straight and Angle Types. 3", 5" dial sizes.
B Industrial Thermometers, Rigid Stem or Adjust-Angle in 5", 7", 9", 12" case sizes.

WEKSLER INSTRUMENTS "ORIGINATORS OF WORLD RENOWNED ADJUST-ANGLE THERMOMETERS"
WEKSLER INSTRUMENTS CORP.
195 EAST MERRICK ROAD, FREEPORT, L. I., N. Y.
Indicating and Recording Instruments for Temperature, Pressure and Humidity

▲ For more details circle NED-1063 E on enclosed inquiry slip ▲

NEW *Norgren* **COMPRESSED AIR LINE FILTERS**
for 1/4", 3/8" & 1/2" pipe sizes



The most efficient filter you can buy... the easiest to clean

- 100% liquid removal
- Only 4 parts to handle—fast and easy to clean
- New stronger transparent bowl
- Larger bowl capacity for collected liquid

FOUNDED IN 1926 *Write for Brochure NA-1*

C. A. NORGREN CO.
3405 SOUTH ELATI ST., ENGLEWOOD, COLORADO

▲ For more details circle NED-1064 E on enclosed inquiry slip ▲

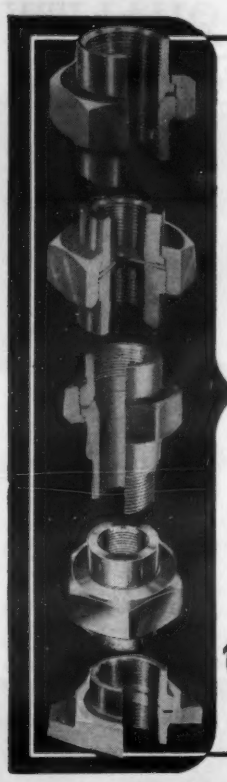
Jib Cranes for Any Requirement

WRIGHT Wall Bracket Jib Cranes are the perfect answer for supplementary use to a regular traveling crane or monorail track—or for individual use in bays, on sides of shops, etc. Hinge plates are fitted with Hyatt Roller Bearings or Bronze Bushings. These and all other fittings are made of annealed electric steel. Double tie rods connected to top and bottom fittings allow for "take-up" without use of turnbuckle. Note: mast not furnished. A complete line of WRIGHT pillar type jib cranes is available. If you like, jib crane fittings can be bought separately for local crane assembly.

Write our York, Pa., office for Bulletin DH-300

WRIGHT CRANES
Wright Hoist Division • American Chain & Cable Company, Inc. ACCO
York, Pa., Atlanta, Chicago, Denver, Detroit, Houston, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

▲ For more details circle NED-1065 E on enclosed inquiry slip ▲



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Catawissa PERFECT SEAL Unions

for all temperatures for all pressures!

Catawissa Unions are HOT FORGED from solid rectangular steel bars to give sure-fire piping dependability! Exclusive Ball-to-Angle seat design gives A PERFECT SEAL EVEN WITH PIPE NOT IN ALIGNMENT!

There's a Catawissa Union for every use, temperature and pressure . . . Standard and Double Extra Heavy; Orifice; Male & Female; Full Stainless, Full Alloy; Lug Nut. Choice of seats and socket weld or screwed ends.

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250 Mill St. • CATAWISSA, PA.

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"Airgrit" marks the hardest, most polished surfaces with not much more than a breath of air. Now being used for marking . .

Send a sample of your product to be "Airgrit" marked.

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Offices in Principal Cities

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PICK the RIGHT HANDLING TRUCK

This handy reference describes Lewis-Shepard's complete line of "manually-operated," "intermediate" and "all-electric" equipment. Here is everything you need for a fully-integrated materials handling system. Write today for your free copy of L-S Condensed Catalog 80-204.

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175 Walnut Street, Watertown 72, Mass.

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Index to Advertisers

A

A & A Mfg. Co., Inc. 36
A-B-C Packaging Machine Corp. 64
Abart Gear & Machine Co. .. 30
Acme Visible Records, Inc. .. 79
Acra Electric Corp. 32
Adams, R. P., Co., Inc. 5
Aero-Motive Mfg. Co. 8
Agastat Timing Instruments, Div. of Elastic Stop Nut Corp. of America 6, 111
Aget Mfg. Co. 17
Air-Maze Corp. 42
Airetool Mfg. Co. 29
Airmatic Valve, Inc. 28
Ajax Flexible Coupling Co. .. 72
Ajusto Equipment Co. 83
Akro-Mils, Inc. 4
Alan Wood Steel Co. 18
Alan Wood Steel Co., Penco Div. 70
Alemite Div., Stewart-Warner Corp. 19, 52, 75
Allen-Bradley Co. 92
Allied Wheel Products, Inc. 107
Allis, Louis, Co., The 91
Allis-Chalmers 101
Allison-Campbell Div., American Chain & Cable 14
Alloys Unlimited, Inc. 9
Alpha-Molykote Corp. 80
Aluminum Co. of America .. 23
Aluminum Ladder Co. 72
Aluminum Products, Inc. 107
American Air Filter Co. 25
American Allsafe Co., Inc. .. 10
American Chain & Cable Co. 14, 66, 109
American Hoist & Derrick Co., Crosby-Laughlin Div. 29
American Machine and Metals, Inc., DeBothezat Fans Div. 41
American Machine & Tool Co. 31
American Monorail Co. 52
American Monorail Co., Conveyor Div. 99
American Optical Co., Safety Products Div. 39
American Pulley Co. 13
American Standard, Detroit Controls Div. 40
Ames, B. C., Co. 94
Anchor Coupling Co. 24
Anderson Bros. Mfg. Co. ... 102
Apco Mossberg Co. 35
Arcos Corp. 92
Aro Equipment Corp. 14
Associated Research, Inc. .. 16
Atlas Press Co., Clausing Div. 20, 87
Auburn Ball Bearing Co. ... 5
Auto-Diesel Piston Ring Co. . 47
Auto-Ponents, Inc. 20, 95

B

Bacharach Industrial Instrument Co. 102
Bal, William, Corp. 15
Ballymore Co. 25
Barber-Colman Co. 38
Barco Mfg. Co. 85
Barnstead Still & Sterilizer Co. 109
Basink, Vince, Co., The 91
Bausch & Lomb Optical Co. 33
Bay West Paper Co. 67
Bead Chain Mfg. Co. 59
Beam Products Mfg. Co. .. 26
Bean, John, Div. of Food Machinery & Chemical Corp. 12
Beaver Pipe Tools, Inc. .. 87
Bellows Co. 89
Bennett Pump Div., John Wood Co. 58
Bin-Dicator Co. 36
Black-Clawson Co., The 42
Black & Decker Mfg. Co. 16, 71, 112
Blackmer Pump Co. 16
Blaw-Knox Equipment Div., Blaw-Knox Co. 101
Bond, Charles, Co. 88
Boston Gear Works 21
Bowser, Inc. 50
Breuer Electric Mfg. Co. .. 45
Brightboy Industrial Div., Weldon Roberts Rubber Co. 98
Brook Motor Corp. 94
Brown Engineering Co. 60
Browning Mfg. Co. 2
Buchanan Electrical Products Corp. 72
Buckeye Tools Corp. 75
Bullard, E. D., Co. 77
Bumpers, Inc. 96
Burgess-Manning Co. 25, 92
Buschman, E. W., Co. 8
Bussmann Mfg. Co. 56, 57

C

C & D Batteries, Inc. 26
Cambridge Instrument Co., Inc. 106
Carpenter Steel Co. 33, 108
Catawissa Valve & Fittings Co. 110
Ceilcote Co., Inc. 65
Central Safety Equipment Co. 59
Chain Belt Co. 83
Chemtrol 3
Chicago Allis Mfg. Corp. 28
Chicago Mfg. & Distributing Co. 50
Chicago Tramrail Corp. 33
Chicopee Mills, Inc. 42
Chisholm-Moore Hoist Div. .. 9
Clark-Aiken Co., The 97
Clark Door Co., Inc. 78
Clarke Floor Machine Co. .. 29
Clausing Div., Atlas Press Co. 20, 87
Cleco, A Div. of Reed Roller Bit Co. 94
Cleveland Crane & Engineering Co. 29
Cleveland Tramrail Div., Cleveland Crane & Engineering Co. 29
Cleveland Vibrator Co. 52
Cleveland Wire Cloth & Mfg. Co. 14
Cleveland Worm & Gear Co. . 54
Clippard Instrument Laboratory, Inc. 54
Clipper Belt Lacer Co. 12
Coffing Hoist Div. of Duff-Norton Co. 49
Colonial Rubber Co. 78
Columbus McKinnon Chain Corp. 8
Commander Mfg. Co. 73
Cone Drive Gears, Div. Michigan Tool Co. 91
Controls Co. of America ... 18
Coppus Engineering Corp. ... 94
Corning Glass Works 81
Cover, H. S. 8
Crane Packing Co. 17, 100
Cushman & Denison Mfg. Co. 103

D

D & M Products, Inc. 70
Daffin Mfg. Co. 104
Dancer "Stikfile" Co. 10
Darnell Corp., Ltd. 44
Day Co., The 38
Daystrom, Inc., Weston Instruments Div. 98
DeBothezat Fans, A Div. of American Machine and Metals, Inc. 41
Delavan Mfg. Co. 103
Deming Co. 77
Despatch Oven Co. 48
Detroit Controls Div., American Standard 40
Detroit Stamping Co. 34
Detroit Testing Machine Co. 57
Devcon Corp. 61
Dick, R. & J. Co., Inc. 86
Dillon, W. C., & Co., Inc. .. 29
Dings Magnetic Separator Co. 17
Dodge Mfg. Co. 28
Dollinger Corp. 35
Douglas Fir Plywood Association 48
Dow Corning Corp. 34, 87
Dravo Corp. 102
Dreis & Krump Mfg. Co. .. 74
Dresser Mfg. Div. 90
Driv-Lok Sales Corp. 40
Duff-Norton Co. 3, 49, 108
duMont Corp. 12
Dundick Tool Works, Inc. .. 14
Duo-Fast 96
duPont de Nemours, E. I., & Co. 30
Dwyer, F. W., Mfg. Co. 102

E

Eastern Industries, Inc. 32
Econ-O-Veyor 89
Edmont Mfg. Co. 96
Edmund Scientific Co. 2, 112
EICO 66
Eisler Engineering Co. 84
Elastic Stop Nut Corp. of America 6, 111
Electric Controller & Mfg. Co., Div. of Square D Co. 47
Electro Switch Corp. 34
Elliott Co. 47
Enterprise Machine Parts Corp. 18
Enterprise Wire Co. 59
Equipment Mfg. Inc. 87
Erico Products, Inc. 102
Erie Tool Works, The 105
Eriez Mfg. Co. 43
Exact Weight Scale Co. 100
Ex-Cell-O Corp. 49

F

Fafnir Bearing Co. 20
Fairbanks Co., The 65
Fairfield Mfg. Co. 36
Farrelloy Co. 112
Fastener Corp. 96
Fastex Div. of Illinois Tool Works 22
Fawick Airflex Div., Fawick Corp. 64
Federal Products Corp. 15
Federal Sign & Signal Corp. 95
Felt Products Mfg. Co. 73
Fenwal, Inc. 60
Ferro Corp. 47
Fibreboard Paper Products Corp. 89
Filmsort Co., The, Div. of Minnesota Mining & Mfg. Co. 93
Fisher Governor Co. 45
Fisher-Pierce Co. 64
Flash Mfg. Co. 74
Flexible Steel Lacing Co. .. 24
Flexo Products, Inc. 22
Flexrock Co. 112
Flintkote Co. 74
Foley Mfg. Co. 94
Food Machinery & Chemical Corp. 12
Foote Bros. Gear & Machine Corp. 76
Foredom Electric Co., Inc. .. 107
Forge & Fittings Div., H. K. Porter Company, Inc. 49
Formsprag Co. 55
Foster Supplies Co. 22
Fostoria Corp. 9, 86
Foxboro Co. 5
Franklin Electric Co., Inc. .. 63
Fuller Co. 18
Fulton Sylphon Div., Robertshaw-Fulton Controls Co. .. 52
Funk Mfg. Co. 72

G

GPE Controls, Inc. 73
Gardner-Denver Co. 39
Garlock, Inc. 12, 103
Gast Mfg. Corp. 45
Gemco Electric Co. 10
General Controls Co., Automation Controls Div. 20
General Electric Co. ..27, 82, 102
General Floorcraft, Inc. 42
General Precision, Inc., GPL Div. 67
General Radio Co. 98
General Scientific Equipment Co. 5
Gerrard, A. J., & Co. 63
Gits Bros. Mfg. Co. 44
Gojer Inc. 96
Goodrich, B. F., Tire Co., A Div. of The B. F. Goodrich Co. 15
Goodyear Tire & Rubber Co. 33
Gordos Corp. 3
Gould, J. D., Co. 19
Graphic Systems 49
Gray Co., Inc. 75
Gries Reproducer Corp. 96
Grieve-Hendry Co. 66
Grinding & Polishing Machinery Corp. 56
Guthery Machine Corp. 103

H

Hagen Mfg. Co. 56
Hallemite Mfg. Co. 105
Haloid Xerox Inc. 46
Hamilton Tool Co., The 15
Hammond Machinery Builders 57
Hanna Engineering Works ... 69
Hannifin Co. Div. of Parker-Hannifin Corp. 75
Hanscom, H. F., Co., Inc. .. 76
Hansen Mfg. Co. 35, 82
Hardman, H. V., Co., Inc. .. 26
Harrington & King Perforating Co., Inc. 69
Hassall, John, Inc. 84
Heinemann Electric Co. 40
Helicoid Gage Div., American Chain & Cable Co., Inc. .. 66
Hellermann Corp. 104
Hevi-Duty Electric Co. 59
Highside Chemicals, Inc. .. 90
Hilliard Corp., The 60
Hobbs Mfg. Co. 22, 79
Hoffman Bros. Drilling Co. .. 93
Homestead Valve Mfg. Co. .. 60
Hoover Ball & Bearing Co. 89
Hough, Frank G., Co. 50
Houghton, E. F., & Co. 108
Humphrey Products Div. of General Gas Light Co. 74
Hunter Spring Co. 24
Huot Mfg. Co. 104
Hydraulic Mfg. Co. 112
Hydraulic Press Mfg. Co. ... 82
Hydroway Scales, Inc. 88
Hytrol Conveyor Co. 37

I

Ideal Industries, Inc. 3
Illinois Testing Laboratories, Inc. 24
Imperial Brass Mfg. Co. .10, 109
Industrial Electronic Engineers, Inc. 22
Ingersoll-Rand 61
Injection Molders Supply Co. 39
International Molded Plastics, Inc., Structoglas Div. 86
Ironbound Box & Lumber Co. 10

J

Jacobson Nut Mfg. Corp. 62
Jeffrey Mfg. Co. 79
Johnson Corp., The 79
Jones, Howard B., Div., Cinch Mfg. Corp. 38
Jones Motrola Corp. 30
Jorgensen Conveyors, Inc. 6

K

Kellogg-American Div., Scaife Co. 35
Kester Solder Co. 50
Kidde, Walter, & Co., Inc. .. 56
Kleen-Stik Products, Inc. .. 5
Koelling-Universal Joints, Inc. 6

L

Lake Chemical Co. 3
Lakin, A., & Sons, Inc. 3
Lamb Electric Co. 58
Lapeer Mfg. Co. 66
LaSalle Steel Co. 70
Leiman Bros., Inc. 37
Lewis-Shepard Products, Inc. 110
Lincoln Engineering Co. 59
Lindberg Products Company. 8
Link-Belt Co. 19
Littell, F. J., Machine Co. .. 62
Logan Co. 4
Lord Chemical Corp. 4
Lovejoy Flexible Coupling Co. 87
Lyon Metal Products, Inc. ..37, 55

M

M B Electronics, A Div. of Textron Electronics, Inc. .. 7
Mac-It Parts Co. 31
Mackintosh-Hemphill Div. of E. W. Bliss Co. 44
Macton Machinery Co. 7
Magline, Inc. 112
Magna-Lock, Inc. 40
Magnatrol Valve Corp. 107
Magnesium Products of Milwaukee, Inc. 79
Manheim Mfg. & Belting Co. 84
Manning, Maxwell & Moore, Inc. 41
Markal Co., The 18
Martin Engineering Co. 30
Marx, Clarence J., Co. 25
Mason-Neilan Div., Worthington Corp. 36
Masonite Corp. 54
Master Appliance Corp. 66
Matthews, Jas. H., & Co. 110
May-Fran Engineering, Inc. .. 65
Mayline Co., Inc. 46
McGill Mfg. Co. 20, 97
McKinstry Metal Works, Inc. 44
Mead Specialties Co. 75
Mercoid Corp. 100
Merrill Brothers 57
Methods Research Corp. 9
Metron Instrument Co. 51
Metzgar Conveyor Co. 33
Meyercord Co. 58
Micro Metallic, A Div. of Pall Corp. 2
Micro-Switch, A Div. of Minneapolis-Honeywell Regulator Co. 14
Milford Rivet & Machine Co. 31
Miller Electric Mfg. Co., Inc. 99
Milwaukee Cylinder Co. 63
Minerals & Chemicals Corp. of America 6
Minnesota Mining & Mfg. Co. 38, 47
Minnesota Rubber Co. 76
Minster Machine Co., The .. 69
Mixing Equipment Co., Inc. .. 107
Modern Machine Tool Co. .. 40
Modern Mfg. Co., Inc. 106
Modernair Corp. 39
Mohawk Tools, Inc. 68
Molded Fiber Glass Tray Co. 63
Monarch Rubber Co. 69
Morse Corp. 2
Moto-Truc Co. 46
Mueller Brass Co 82
Multi-Clean Products, Inc. .. 68
Mystik Adhesive Products, Inc. 38

N

National Acme Co. 55
National Conveyor Co. 106
National Machine Products .. 95
National Perforating Corp. .. 28
National Standard Co. 62
National Super Service Co., The 71
National Tool Co. 44
National Vulcanized Fibre Co. 108
Newbury Industries, Inc. 16
New England Carbide Tool Co. 97
New Jersey Machine Corp. .. 96
Niagara Machine & Tool Works 54
Nissen, Jr., John P., Co. .. 40
Nordson Corp. 52
Norgren, C. A., Co. 109
North American Mogul Products Co. 66
Nutting Truck & Caster Co. . 81

O

Ohio Nut & Bolt Co. 80
Ohio Rubber Co. 76
O'Neil-Irwin Mfg. Co. 48
Osborn Mfg. Co., The 93

P

Packless Metal Hose, Inc. .. 104
Palmer Thermometers, Inc. .. 36
Pangborn Corp. 3
Pannier Corp. 101
Paragon Spring Co. 70
Parent Metal Products 2
Parker Fittings & Hose Div. of Parker-Hannifin Corp. . 26
Parker-Hannifin Corp. 26, 75, 91
Parker Seal Co., Div. of Parker-Hannifin Corp. 91
Parr Mfg. Corp. 64
Pasadena Hydraulics, Inc. .. 108
Paslode Co., Div. of Signode Steel Strapping Co. 43
Pass & Seymour, Inc. 32
Pedrick Tool & Machine Co. 32
Penco Div., Alan Wood Steel Co. 70
Pereny Equipment Co. 19
Perfecting Service Co. 17
Perfection Gear Co., American Stock Gear Div. 51
Perkin-Elmer Corp. 41
Permacel 48
Pfaudler-Permutit, Inc., Pfaudler Div. 111
Phillips Process Co., Inc. 17
Pick Mfg. Co. 104
Pines Engineering Co. 41
Platecoil Div., Tranter Mfg., Inc. 36
Pneumatic Scale Corp., Ltd. 48
Polymer Corp. of Penna. ... 70
Porter, H. K., Company, Inc., Forge & Fittings Div. .. 49
Porter-Cable Machine Co. ... 7
Potdevin Machine Co. 61
Powers Regulator Co. 92
Pressed Steel Tank Co. 100
Professional Tape Co., Inc. .. 77
Propellair Div. of Robbins & Myers, Inc. 26
Protective Closures Co., Inc. 78
Pryor Marking Products 98
Pulmosan Safety Equipment Corp. 70
Punch-Lok Co. 54
Pyrodyne, Inc. 6

Q

Quickdraft Corp. 85

R

Rain Jet Corp. 93
Rapids-Standard Co., Inc. .. 31
Rauland-Borg Corp. 46
Raybestos-Manhattan, Inc. .. 12
Raymond Corp., The 90
Read Brothers 7
Ready Tool Co. 86
Redmer Air Devices, Inc. .. 37
Reliance Electric & Engineering Co. 53
Repro-Templets, Inc. 10
Republic Rubber Div. 80
Republic Steel Co. 84
Reuland Electric Co. 99
Rex Hinge Co. 4
Reynolds Ink, Inc. 15
Reynolds Metals Co. 100
Reznor Mfg. Co. 32
Richards-Wilcox Mfg. Co. .. 35
Ridge Tool Co. 83
Robbins & Myers, Inc., Pump Div. 95
Roberts, Weldon, Rubber Co., Brightboy Industrial Div. .. 98
Robertshaw-Fulton Controls Co. 52
Rockwell-Standard Corp., Grating Div. 77
Rockwood Sprinkler Co. 83
Roller Bearing Co. of America 91
Roseman Mower Corp. 5
Ross Operating Valve Co. 73
Rotary Lift Co. 81
Rotor Tool Co. 76
Round, David, & Son, Inc. .. 97
Roura Iron Works, Inc. 98
Rowe Methods, Inc. 105
Royal Metal Mfg. Co. 103
Ruby Chemical Co. 46
Ruger Equipment, Inc. 80
Ruscoe, W. J., Co. 83
Russell Gasket Co. 6
Rusticide Products Co. 97

S

SKF Industries, Inc. 56, 57
Salem-Brosius, Inc. 22
Scherr-Tumico 42
Schlegel Mfg. Co. 73
Schmidt, Geo. T., Inc. 60
Schrader's, A., Son, Div. of Scovill Mfg. Co. 15, 108
Schutte & Koerting Co. 106
Seiberling Latex Products 71
Sentry Co., The 64
Service Recorder Co. 80
Setlow, M., & Son, Inc. 71
Sexauer, J. A., Mfg. Co. 16
Shaw-Perkins Mfg. Co. 82
Sheffield Corp., The 72
Sico Mfg. Co., Inc. 55
Signode Steel Strapping Co. .. 43
Simonds Saw & Steel Co. 4
Simplicity Engineering Co. ... 98
Skil Corp. 74
Skinner, M. B., Co. 99
Skinner Chuck Co., The 31
Skinner Electric Valve Div. .. 82
Smooth-On Mfg. Co. 79
Snap-On Tools Corp. 56
Spartan Tool Div., H. D. Conkey & Co. 85
Spaulding Fibre Co., Inc. 16
Spee-Flo Co. 85
Spencer Turbine Co. 92
Sperry Products Co. 68
Spraying Systems Co. 50
Square D Co. 47
Square D Co., Electric Controller & Mfg. Co. Div. 47
Stackbin Corp. 51
Stackpole Carbon Co. 62
Standard Conveyor Co. 86
Standard Dry Wall Products, Inc. 62
Standard Industrial Products Co. 24
Standard Instrument Corp. .. 45
Standard Pressed Steel Co., Industrial Fastener Div. ..8, 9
Stanford Engineering Co. 14
Stanley Works, The 11, 45, 53, 91
Stanley-Humason, Inc. 45
Sta-Warm Electric Co. 12
Stearns Electric Corp. 25, 112
Stearns Magnetic Products Div. of Indiana General Corp. 111
Stephens-Adamson Mfg. Co. .. 34
Sterling Factory Equipment Co. 43
Steward, D. M., Mfg. Co. 68
Stewart-Warner Corp., Alemite Div. 19, 52, 75
Sticht, Herman H., Co., Inc. 34
Stokvis Multiton Corp. 89
Stone Container Corp. 105
Stow Mfg. Co. 49
Stratos, A Div. of Fairchild Engine & Airplane Corp. .. 54
Structoglas Div. of International Molded Plastics, Inc. 86
Struthers-Dunn, Inc. 94
Sturtevant, P. A., Co. 52
Sunnen Products Co. 84
Superior Carbon Products, Inc. 2
Superior Steel Products Co. .. 18
Supreme Products Corp. ..32, 81
Synthane Corp. 20

T

Taylor Instrument Companies 104
Tempil Corp. 51
Templeton, Kenly & Co. 69
Tennant, G. H., Co. 90
Thern Machine Co. 14

Advertisers Index—Continued

Thompson-Bremer & Co. 67
Thomson Industries, Inc. 78
Thor Power Tool Co. 85
Tinnerman Products, Inc. 58
Tokheim Corp. 78
Tolerton Co. 24
Tompkins-Johnson Co. 88
Torit Mfg. Co. 61
Trailevator Co., Div. of Magline, Inc. 10
Tranter Mfg., Inc., Platecoil Div. 36
Trent, Inc. 46
Trico Fuse Mfg. Co. 53
Trippe Mfg. Co. 24
Trombetta Solenoid Corp. .. 7
Tropical Paint Co. 28
Tuthill Pump Co. 20
Twentieth Century Mfg. Co. .. 26
Ty-Sa-Man Machine Co. 18

U

Union Metal Mfg. Co. 56, 57
Union Special Machine Co. .. 80
Unisorb Div. of The Felters Co. 88
U. S. Burke Machine Tool Co. 39
U. S. Electrical Motors 8
U. S. Graphite Co. 75
U. S. Hoffman Machinery Corp. 95
U. S. Stoneware Co. 106
Utica Drop Forge & Tool Div., Kelsey-Hayes Co. 72

V

Valvair Div. of International Basic Economy Corp. 48
Van Gorp Mfg., Inc. 4
Van Products Co. 96
Vanguard Mfg. Co. 101
Vanton Pump & Equipment Corp. 5
Veeder-Root 42
Vega Industries, Inc. 88
Versa Products Co., Inc. 105
Viking Pump Co. 28

W

WLS Stamping Co. 101
Wabash Metal Products Co. .. 7
Wagner Electric Corp. 36
Wallace, B. E., Products Corp. 105
Wallace Supplies Mfg. Co. .. 90
Warner Electric Brake & Clutch Co. 67
Warren Refining & Chemical Co. 89
Warrick, Charles F., Co. 53
Watlow Electric Mfg. Co. .. 106
Webster Instruments, Inc. 64
Wedge Wire Corp. 41
Weksler Instruments Corp. .. 109
West Bend Equipment Corp. .. 61
Westinghouse Air Brake Co. .. 88
Wheeler Protective Apparel, Inc. 62
White, S. S., Plastics Div. .. 30
Whiting Corp. 50
Whitmore Mfg. Co., The 68
Wiegand, Edwin L., Co. 4, 99
Wilson's of Cleveland 65
Wilton Tool Mfg. Co. 93
Winsmith, Inc. 58
Wintriss, Inc. 92
Wire & Iron Products, Inc. .. 12
Wolverine Tube Div., Calumet & Hecla, Inc. 63, 65, 67
Wood, John, Co., Bennett Pump Div. 58
Wood's, T. B., Sons Co. 81
Wright Hoist Div., American Chain & Cable Co. 109

X

X-Acto, Inc. 34
Xcelite, Inc. 55

Y

Yale & Towne Mfg. Co. 19

Index to Products

A

Abrasive Products 5, 27, 40, 43, 54, 96, 98
Actuators, Rotary 49
Adhesives 5, 48, 79, 83, 91, 97, 98, 100, 103, 112
Alarms 56, 60
Alloys 26, 94, 101, 104, 108
Aluminum 23, 108

B

Balancing Equipment 36, 63
Balers 77
Baskets 12
Batteries 68
Bearings 5, 20, 23, 43, 56, 57, 78, 82, 83, 89, 91, 97, 98, 103
Bellows 52
Belting ..67, 84, 86, 94, 102, 106
Bench Tops 24
Benders 1, 32, 41, 48, 90
Bins & Boxes 4, 13, 15, 37, 43, 51, 63, 91, 108
Bird Control 24
Boilers 94
Boots 36
Brakes 25, 67, 99, 112
Broaching Equipment 12
Brushes, Electric 75
Brushes, Industrial 93
Building Materials 84, 86
Buildings 37, 58
Bumpers, Dock 96

C

Cabinets 4, 44
Cams & Followers 84, 97
Cases & Chests 100, 104
Casters 39, 44, 66, 96, 108
Castings 82
Cements, Repair 61, 105
Chains & Fittings 8, 28, 59
Chairs & Stools 37, 83, 103
Chargers, Battery 26
Chucks 17, 20, 31, 37, 59
Clamping Devices 1, 9, 20, 54, 57, 66
Clamps, Lifting 57
Cleaners, Air 5, 35, 50, 59, 75, 78, 109
Cleaners, Drain 85, 112
Cleaners, Tube 47, 71
Cleaners, Vacuum 41, 42, 45, 71, 72, 92
Cleaning Equipment, Blast ..8, 70
Cleaning Machines 3, 4, 13, 65, 78, 88, 98, 103
Cleaning Materials 6, 66, 68, 90, 93, 96, 105
Clutches..5, 25, 55, 60, 64, 67, 69
Coatings, Protective 65, 74, 101, 104
Collars 9
Communications Equipment ..24, 26, 46, 62, 84
Compressors 35, 61
Controls, Air & Hydraulic 11, 12, 20, 28, 34, 48, 54, 73, 74, 75, 82, 86, 88, 95, 105
Controls, Edge Position 14, 73
Controls, Electric 2, 3, 6, 7, 14, 18, 20, 34, 39, 40, 47, 50, 78, 82, 90, 92, 94
Controls, Level 53
Controls, Pressure & Temperature 24, 32, 36, 45, 53, 54, 60, 75, 100
Controls, Production 9, 49, 80
Controls, Remote 67, 68
Conveyor Accessories.4, 11, 17, 34
Conveyors 4, 6, 8, 31, 33, 35, 37, 52, 61, 64, 65, 83, 85, 86, 89, 94, 99, 106
Coolant Systems 15, 52
Counting Devices 20, 22, 42, 45, 48, 52
Couplings, Flexible 72, 87, 88
Crane Accessories 47, 77
Cranes....29, 51, 80, 97, 105, 109
Cutters, Metal 7, 42
Cutoff Machines 40, 46, 87
Cylinders, Air & Hydraulic..9, 35, 39, 56, 63, 69, 70, 75, 76, 108

D

Deburring Equipment 33, 56
Detectors, Missing Parts 92
Dies & Accessories 18, 33, 74
Dockboards & Ramps 18, 79, 98, 105, 112
Door Operators 5, 91
Doors, Industrial 78
Drafting Equipment ...2, 10, 27, 38, 46, 62, 93, 102
Drill Heads, Adjustable 73
Drilling Machines 11, 15, 22, 57, 102
Drills & Accessories 68, 70, 93
Drills, Masonry 97
Drives, Machine ...21, 23, 55, 86
Drives, Variable Speed 2, 8, 22, 53, 81, 82, 84, 91, 96, 98
Drying Equipment 96, 102
Dust Collectors ...1, 17, 25, 38, 57, 61, 80, 107

E

Electric Plants 12
Electronic Equipment ..47, 48, 66
Elevating Equipment ...13, 29, 35, 52, 58, 61, 81, 97
Engines, Industrial 88
Exhausters 85
Expanders, Tube 73

F

Fabricating Equipment 54
Fans & Blowers.26, 34, 41, 56, 94
Fasteners.1, 2, 4, 8, 9, 17, 23, 29, 31, 40, 42, 44, 58, 62, 67, 72, 73, 80, 81, 84, 95, 96, 102, 111
Fasteners, Belt 12, 24
Faucet Repairs 16
Feeders 6, 17, 18, 48, 80, 83
Felt Products 95, 96, 105
Filtering Equipment ..1, 2, 5, 13, 18, 19, 35, 38, 42, 75, 85, 109
Finishes 91, 94, 101, 105, 108
Finishing Equipment 2, 3, 4, 15, 19, 52, 59, 61, 66, 73, 75, 85, 92, 100
Fire Extinguishing Equipment 83
Flexible Shaft Equipment..49, 107
Floor Machines 1, 29, 42
Flooring Materials 18, 23, 44, 62, 68, 77, 89, 100, 102, 106, 109, 112
Forgings 29, 49, 82
Framing 31
Furnaces, Industrial 19, 46, 64, 70, 96
Fuses 53, 56, 57

G

Gages, Precision 1, 2, 3, 9, 11, 14, 15, 30, 32, 34, 40, 42, 44, 47, 64, 72, 74, 94, 112
Gages, Pressure & Temperature 5, 66, 70, 102
Gearing..21, 25, 30, 36, 38, 44, 91
Generators 27
Glass Products 81
Glazing, Materials 86
Gloves, Industrial 31, 43, 49, 71, 77, 96
Governors 45
Grating 77, 100, 102, 106
Grinding Equipment 10, 11, 26, 40, 69, 75

H

Hardboard 54
Heat Exchangers 5, 36, 38, 61, 67, 111
Heaters, Electric 4, 32, 66, 82, 94, 98, 99
Heaters, Unit.32, 82, 100, 106, 107
Hinges 4
Hoists 9, 14, 19, 24, 41, 49, 62, 85, 86, 107, 109
Honing Equipment 51
Hose & Fittings 12, 15, 17, 19, 24, 26, 35, 52, 54, 59, 82, 91, 99, 100, 104

I

Indicators, Flow 50
Indicators, Humidity 104
Indicators, Pressure & Temperature 6, 51, 79
Indicators, Shaft Motion 36
Inspection Equipment 22, 33, 64, 109, 112
Instruments, Electric 47
Insulation, Electric 38
Insulation, Thermal 74

J

Jacks 3, 69, 85, 108
Jacks, Leveling 18, 88
Jigs & Fixtures 20
Joints, Rotating 79, 85
Joints, Universal 6

K

Knives & Blades 34, 87

L

LP-Gas Systems 26
Labels 48, 50, 58, 77
Ladders 3, 25, 57, 72, 100
Lawnmowers 5
Lighting Equipment 5, 30, 39, 63, 68, 86, 102
Lights, Pilot 12, 22, 102, 104
Lockers & Shelving ...37, 70, 103
Lubricating Equipment & Materials 15, 44, 55, 59, 68, 75, 80, 87, 89, 93, 106, 108
M

Machine Tool Accessories 16, 18, 37, 59, 68, 76, 86, 107
Machine Tools 39, 76, 87, 88
Magnetic Equipment 17, 43, 62, 68, 102, 111
Marking Equipment 3, 15, 17, 18, 19, 20, 36, 40, 50, 60, 63, 74, 76, 98, 101, 103, 110
Materials Handling Equipment 10, 12, 13, 17, 22, 32, 42, 45, 50, 56, 57, 65, 72, 77, 81, 89, 98, 104, 108
Materials, Perforated 28, 69
Meters, Flow 47, 66
Mixing Equipment.26, 32, 104, 107
Mold Releases 39, 61
Motors, Air & Hydraulic 39, 45, 89
Motors, Electric ..1, 8, 13, 25, 27, 34, 53, 56, 58, 63, 65, 80, 94, 99

N

Nameplates 58
Nozzles, Spray 50
Nuts 9, 23, 62, 95, 96, 111

O

Office Equipment 79, 81, 100
Ovens, Industrial 48, 59, 66

P

Packaging Equipment & Materials 6, 43, 46, 48, 64, 80
Packings & Gaskets..6, 16, 28, 99
Partitions 76, 85, 102
Parts, Deep Drawn 100
Photoelectric Equipment ..64, 104
Pins 2, 9, 40
Pipe & Fittings 21, 53, 68, 79, 90, 99, 105, 110
Pipe & Thread Compounds 17, 73, 90, 101
Pipe Tools & Machines 83
Plastic Panels, Reinforced ... 86
Plastics 12, 17, 20, 30, 40, 47, 70, 97, 106, 108, 112
Plugs & Caps 22, 30, 78
Plywood 48
Power Units, Electric...77, 84, 90
Power Units, Hydraulic 108
Presses 49, 82
Presses, Molding 16, 75, 108
Production Facilities 23, 55, 90, 108
Projectors 74
Publicity 7
Pullers 41, 49, 69, 107, 108
Pulleys & Sheaves 81
Pulverizers 79
Pumps..3, 5, 6, 9, 12, 16, 20, 28, 58, 61, 69, 77, 78, 95, 100, 106
Pumps, Air & Vacuum 37, 61, 86, 96
Pumps, Chemical 5
Punches 10

R

Racks....31, 33, 38, 60, 82, 87, 91
Recorders 5, 8, 36, 71
Reels, Cord 8, 92
Reels, Hose 92
Reels, Stock 62, 81
Reproduction Equipment & Materials 38, 46, 72, 93, 95
Respirators 8, 22, 70
Rings, Piston 47
Riveting Equipment 10, 31, 47
Rollers 3
Roofing Materials 28, 107
Rubber Products.34, 76, 78, 80, 97
Rust Preventives 1, 97

S

Safety Equipment 5, 6, 10, 18, 23, 24, 33, 36, 39, 41, 59, 62, 71, 77, 80, 83, 89, 100, 102
Saw Blades 4, 7
Saws, Metal & Wood.14, 18, 31, 84
Scales 23, 29, 67, 88, 100
Screens 28, 41
Screwdrivers 35, 55, 56
Screws.4, 8, 23, 29, 31, 67, 80, 102
Seals & Sealants 16, 26, 73, 76, 90, 91, 99, 101, 109
Sharpeners, Saw 94
Shears 22, 79, 106
Shims 34
Shop Equipment 37
Signals 2, 69, 95
Silicones 39, 104
Sleeves 36
Slings & Fittings 8
Snubbers, Exhaust 92
Soldering Equipment & Materials....3, 9, 46, 50, 54, 78, 112
Solenoids 78
Spacers 34
Speed Reducers 19, 21, 51, 53, 54, 58, 76
Spray Equipment 50
Springs 21, 24, 70, 98, 104
Sprinklers, Lawn 93
Sprockets 28
Stampings 101
Stapling Equipment.14, 28, 43, 96
Static Eliminators 31
Steel 33, 70
Straighteners 44
Strapping, Steel 43, 63, 75
Strippers 89, 101
Sweepers, Power 90

T

Tables 55
Tables, Indexing 84
Tables, Rotary 53, 60
Tachometers 25, 30, 34, 51
Tackers 96
Tags 105
Tanks 41
Tanks, Compound Melting ... 12
Tape, Industrial 38, 77
Tapping Attachments & Equipment 32, 81
Telephone Booths, Acoustic .. 25
Television, Industrial...37, 67, 94
Testing Equipment 16, 38, 41, 42, 47, 50, 57, 64, 66, 72, 100, 104, 106
Thermometers..15, 36, 49, 98, 109
Ties 76
Timing Devices 35, 52, 54, 56, 75, 87
Tires, Industrial 15, 33, 69
Tools, Cutting 26, 29, 54, 71, 79, 88, 100
Tools, Hand.16, 53, 72, 74, 81, 102
Tools, Pneumatic 14, 26, 29, 75, 76, 94, 108
Tools, Portable Electric 7, 11, 16, 23, 74, 98, 106, 112
Towels, Disposable 42
Tractors, Industrial 2, 8, 30, 86, 101
Trailers, Industrial 10, 24
Transformers 36
Trolleys 35, 109
Trucks, Hand 13, 65, 90, 110
Trucks, Industrial Power 1, 2, 8, 22, 46, 58, 73, 90, 101, 110
Tubing & Fittings 10, 33, 47, 51, 63, 65, 67, 89, 90, 97, 106, 107, 108, 109, 112
Turntables 7

U

Ultrasonic Equipment..13, 78, 103

V

Vacuum Equipment 60
Valves 3, 18, 19, 36, 60, 74, 87, 88, 94, 95, 98, 102, 107
Ventilating Equipment ..26, 46, 94
Vibration Absorbers..7, 18, 88, 94
Vibrators 30, 43, 51, 52
Vises 93

W

Washroom Equipment ..65, 88, 96
Water Heaters 92, 104
Water Treatment 27, 109
Way Protectors 36
Welding Equipment 23, 31, 45, 55, 58, 62, 71, 74, 84, 92, 96, 99, 102, 103, 107
Wheels, Industrial..13, 30, 82, 107
Wire 59, 62
Wire Cloth & Screen ..14, 89, 95
Wire Rope & Fittings 29
Wire Specialties 45
Wiring Devices 10, 20, 21, 25, 28, 32, 37, 44, 63, 72, 92, 102, 104, 108
Workbenches & Tops 2, 24
Wrenches 52, 83, 88

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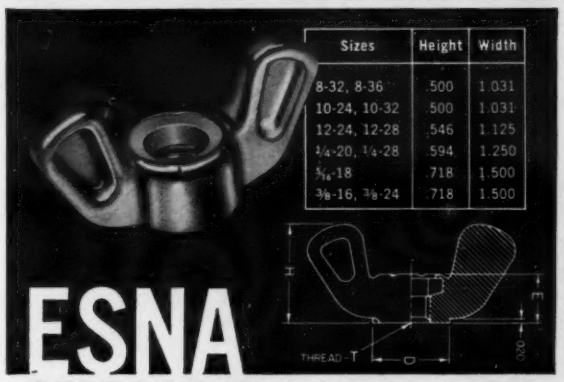

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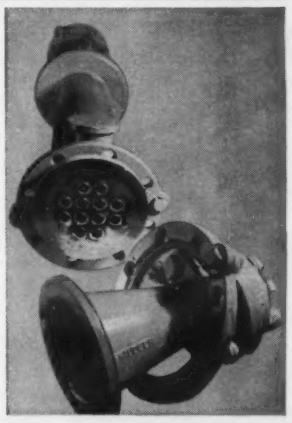

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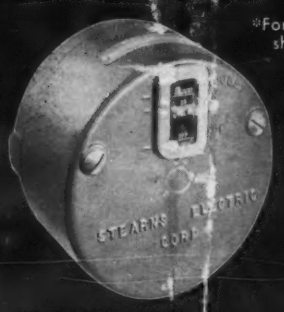

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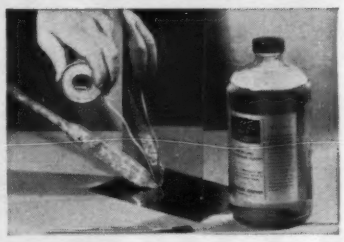

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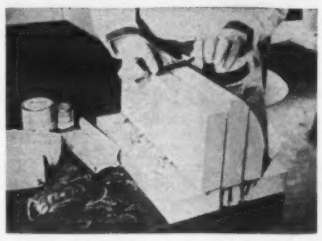
holds dimensions, is carvable



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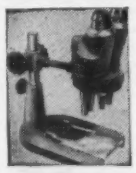

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